COMMUNICATIONS ACT OF 1934

(AUTOMATIC RADIO CALL SELECTOR ON U. S. CARGO SHIPS)

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

EIGHTY-FOURTH CONGRESS

FIRST SESSION

ON

H. R. 4090

A BILL TO AMEND PART II OF TITLE III OF THE COMMUNICATIONS ACT OF 1934, SO AS TO REQUIRE THE INSTALLATION OF AN AUTOMATIC RADIO-TELEGRAPH CALL SELECTOR ON CARGO SHIPS OF THE UNITED STATES CARRYING LESS THAN TWO RADIO OPERATORS, AND FOR OTHER PURPOSES

MARCH 21, MAY 4, 6, AND JUNE 15, 1955

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COMMUNICATIONS ACT OF 1934

(Automatic Radio Call Selectors on United States Cargo Ships)

MONDAY, MARCH 21, 1955

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON TRANSPORTATION AND COMMUNICATIONS, COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met, pursuant to call, at 10:10 a. m., in room 1334, New House Office Building, Hon. Oren Harris (chairman of the subcommittee) presiding.

Mr. HARRIS. The committee will come to order.

This morning the committee has met for the purpose of holding hearings on H. R. 4090, which is a bill which would amend the Communications Act so as to require the installation of automatic radiotelegraph call selectors on cargo ships of the United States.

(H. R. 4090 follows:)

[H. R. 4090, 84th Cong., 1st sess.]

A BILL To amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radiotelegraph call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 3 of the Communications Act of 1934, as amended (47 U. S. C., sec. 153), is amended by adding at the end thereof the following paragraph: "(hh) 'automatic radiotelegraph call selector' on a ship of the United States subject to the provisions of part II of title III of this Act means a device meeting the requirements prescribed for such devices in section 355 (b) of this Act and approved by the Commission."

SEC. 2. Section 353 of the Communications Act of 1934, as amended (47 U. S. C., sec. 353), is amended to read as follows:

"OPERATORS, WATCHES, AUTO-ALARM, AND AUTOMATIC RADIOTELEGRAPH CALL SELECTOR—RADIOTELEGRAPH-EQUIPPED SHIPS

"SEC. 353. (a) At least two qualified operators shall be carried for safety purposes on—

"(1) each cargo ship of the United States which is required by this part to be fitted with a radiotelegraph installation and which is not fitted with an auto-alarm and an automatic radiotelegraph call selector;

"(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radiotelegraph installation and which is not fitted with an auto-alarm; and

"(3) each passenger ship which is required by this part to be fitted with a radiotelegraph installation.

"(b) At least one qualified operator, who shall have had at least six months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States, shall be carried for safety purposes on—

"(1) each cargo ship of the United States which is required by this part to be fitted with a radiotelegraph installation and which is fitted with an auto-alarm and an automatic radiotelegraph call selector in accordance with this title; and

"(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radiotelegraph installation and which is fitted with an auto-alarm in accordance with this title.

"(c) Each ship of the United States required by this part to be fitted with a radiotelegraph installation shall, while being navigated outside a harbor or port, keep a continuous watch by means of qualified operators: *Provided*, That in lieu thereof, on a cargo ship of the United States fitted with an auto-alarm and an automatic radiotelegraph call selector in proper operating condition, a watch of at least eight hours per day, in the aggregate, shall be maintained by means of a qualified operator.

"(d) The Commission shall, when it finds it necessary for safety purposes, have authority to prescribe the particular hours of watch on a ship of the United States which is required by this part to be fitted with a radiotelegraph installation.

"(e) On any ship of the United States fitted with an auto-alarm or an automatic radiotelegraph call selector, or with both an auto-alarm and an automatic radiotelegraph call selector, such apparatus shall be in operation at all times while the ship is being navigated outside of a harbor or port when the operator is not on watch, and at such other times as the Commission may prescribe."

SEC. 3. Section 355 of the Communications Act of 1934, as amended (47 U. S. C., sec. 355), is amended by redesignating paragraphs (a) through (h) as paragraphs (1) through (8), by striking out the words "subsection (d) of this section" in each place where they appear in the paragraphs redesignated as (5) and (6) and inserting in lieu thereof the words "paragraph (4) of this subsection", by inserting "(a)" immediately after "SEC. 355.", and by adding at the end thereof the following new subsection:

"(b) The automatic radiotelegraph call selector installed on any ship in accordance with this part shall be capable of being set manually to simultaneously receive and identify and respond to the following international Morse code signals:

"(1) The ship station call sign;

"(2) The international distress signal;

"(3) The international safety signal;

"(4) The international urgency signal; and

"(5) Any other predetermined code which is desired for use in national emergencies.

It shall provide a means for receiving such signals on the frequencies five hundred kilocycles and eight thousand three hundred and sixty-four kilocycles, or such other frequency as the Commission may prescribe in lieu of eight thousand three hundred and sixty-four kilocycles, selectively but with respect to frequency not simultaneously, and shall sound an alarm it, but only if, any of the above five signals are received. Such alarm shall be sounded in the radio room, on the bridge, and at such other places on the ship as may be directed by the Commission. The automatic radiotelegraph call selectors shall be independent, except for source of power and antenna, of any other radio equipment on the ship."

SEC. 4. This Act shall take effect on the expiration of eighteen months (or such shorter period as the Commission shall determine) after the Federal Communications Commission has found that—

(1) an automatic radiotelegraph call selector (as defined in section 3 (hh) of the Federal Communications Act of 1934, as amended by this Act) is and will continue to be available, and may be installed, at a reasonable cost to shipowners; and

(2) patents covering, or necessary to the manufacture of, such an automatic radiotelegraph call selector are and will continue to be freely available for license at a reasonable royalty.

Mr. HARRIS. It will be recalled that we had this same bill before the committee in the last Congress. The committee thought in view of the intervening time that we should hold hearings again even though the committee did hold hearings in the last Congress on the same subject.

It also will be recalled that following the hearings and consideration by the committee, the bill was reported favorably to the House.

The committee has received information that in the meantime there have been extensive tests conducted by the Federal Communications Commission with regard to the operating characteristics of radio call selectors, and later on we shall have a report on the results

of these tests. At this time it is our pleasure to have with us the author of the bill, the majority leader of the House, Hon. John W. McCormack.

STATEMENT OF HON. JOHN W. McCORMACK, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. McCormack. Thank you, Mr. Chairman and members of the committee.

You stated the history of the bill from the legislative angle to date. It is a bill which I introduced. It was heard by this committee last year, and after hearings it was reported out.

May I ask that my testimony at that time, at the hearings of last year, and also a copy of the committee report, be made a part of the record.

Mr. Harris. Very well. It will be included in the record at this point.

(Mr. McCormack's statement before the committee on May 3, 1954, follows:)

Statement of Hon. John W. McCormack, a Representative in Congress From the State of Massachusetts

Mr. McCormack. Thank you very much.

Mr. Chairman and members of the committee, we are all interested in safety in the field of human activity. This committee is particularly interested in safety on the seas, particularly the high seas.

This bill relates to the safety of ships, which means, of course, the crew and cargo, the ability to save ships in distress, and I am hopeful the evidence that will be presented to this committee will be of a nature that will satisfy the judgment of the committee that the bill should be enacted into law, or legislation along the lines outlined in the bill should be enacted into law.

It is not my purpose to testify about the bill in detail. I am thoroughly acquainted with the purposes of the bill and the benefits that would flow from the enactment of such legislation, as will be shown by the witnesses.

I might say that I have testified on this bill heretofore, and I assume that the testimony taken before will be made a part of the record. I sent a memorandum to the chairman of the full committee which has been passed around for the benefit of the members of the committee and I hope that those views will be made a part of the record.

The first witness that I will ask to appear and present his testimony to the committee is Mr. Abraham W. Sereysky of New York City.

Mr. Hale. Is the memorandum entitled "Comments on Report to Committee"?

Mr. McCormack. Yes.

Mr. Hale. Do you want that included in the record?

Mr. McCormack. Yes, I would like that, and hope it will be done.

Mr. Hale. Without objection, it will be included.

(Mr. McCormack's testimony on H. R. 5023 before the committee on June 12, 1953 (sponsor's day) is as follows:)

Statement of Hon. John W. McCormack, a Representative in Congress From the State of Massachusetts

Mr. McCormack. Thank you, Mr. Chairman.

I have here a copy of my remarks, which will be distributed around. These remarks relate to H. R. 5023, which I introduced on May 5, 1953, and which relates to the amendment of the Communications Act of 1934, so as to require basically the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators.

American genius in this present electronic age has produced a certain device, hereinafter more fully described and referred to, which is commercially perfected, and the use of which is essential for the one radio-operator vessels in our merchant marine, if the safety standards and efficiency of ships flying the American flag are to be maintained at the highest level.

THE PRESENT STATE OF COMMUNICATION

It is undisputed that the basic means of communication with ships at sea is by means of international Morse code. It is accepted employment practice that a vessel with only one radio operator will have such radio operator on duty for 8 hours each day. Under the present law, which is not affected or changed by the proposed legislation under consideration, all cargo vessels need carry but one radio operator. Such vessel is on radio silence and cannot be reached when the radio operator is off duty for the remaining 16 hours of each day. That intended important messages including distress calls are delayed or unnoticed is self-evident.

Mr. O'HARA. Do you remember at the time of the *Titanic* disaster there was a ship very close to it. It had seen the *Titanic*, had seen the lights go out, but did not know anything was wrong. Do you remember that?

Mr. MCCORMACK. I do. That is an illustration. There have been many others since that time.

Thus, communication with such a ship at sea, under such circumstances, is comparable to a stage in development of the ordinary telephone when it had no bell or other ringing device. The uncertainty of such communications may readily be visualized when one considers the unreliability of his telephone if it were not equipped with a ringing bell.

THE PROPOSED STATE OF COMMUNICATIONS

The automatic radio call selector provides a 24-hour radio watch even though only one radio operator is employed. The instrument is of the selector type which can be set to the characters of international Morse code such as those comprising a ship's call letters and will ring an alarm bell when those call letters are received. The alarm bell, or bells, may be placed on the vessel's bridge, in the radio operator's sleeping quarters, and so forth. The device will reject and not respond to any message except the one intended for its particular ship.

In time of war, if necessary, it is possible to reach all ships by predetermined code signals.

THE FUNCTIONING OF THE DEVICE

There is transmitted herewith as exhibit 1 an instruction book for this automatic radio call selector. All technical details relating to its description, theory of operation, installation, operation parts, and preventive and corrective maintenance are set forth. A general discussion of the equipment is set forth in the reprinted article from Electronics, August 1949 issue, published by McGraw-Hill Publishing Co. and transmitted herewith as exhibit 2. Federal Telecommunications Laboratory completed tests on this equipment which are contained in a laboratory report transmitted as exhibit 3.

GOVERNMENT AGENCIES AND AUTOMATIC RADIO CALL SELECTOR

This equipment has been tested and approved by Federal Communications Commission as meeting the requirements of section 8.135 of the rules for operation aboard ships in the maritime service (exhibit 4).

The United States Maritime Commission originally purchased nine devices for experimental installation. A report of such experiment may be found in an address by V. W. Mayer, electrical engineer, Division of Technical Development, Bureau of Engineering, United States Maritime Commission before the eastern regional meeting of the Institute of Navigation in Washington, D. C. (exhibit 5, p. 2). So favorable was the experience of the United States Maritime Commission that an additional 39 units were purchased by it and the inclusion of this device in all plans and specifications for new cargo construction of mariner type vessels has been directed by that Commission and a total of 108 units have been purchased by that Commission. Since the device is deemed mandatory for new construction, it would appear that the same benefits should be given to older vessels.

The United States Coast Guard has purchased and installed 66 units, after exhaustive tests lasting almost 1 year established the efficacy of the device.

Tests were also conducted by the Army Transport System and in a report to the Chief Signal Officer, Department of the Army, the following recommendation was made (exhibit 6, par. 3).

"3. It is believed that with the addition of the Brelco-McGoffin ships call alarm equipment it would be possible to raise a vessel at any time regardless of its location. While tests have proven that there will be exceptions to this rule, these exceptions will be a minimum rather than a rule."

THE COMMERCIAL USERS

The shipowners: Among others, the Moore-McCormack Lines, Inc., States Marine Corp., Robins Lines have equipped their entire fleets with this device. A list of users and vessels is transmitted as exhibit 7.

Moore-McCormack Lines, Inc., crystallized the shipowners' reaction in a letter to an insurance representative contemplating a reduction of marine rates to users as follows (exhibit 8):

"The equipment has worked very well, both in tests and actual use, and all reports from our fleet indicated enthusiastic approval. From a shipowner's point of view, we find it to be most attractive since it insures the immediate delivery of money-saving diversion messages and other important communications to our ships. Another point to consider is the fact that the alarm has definite safety potentialities involving distress and search and rescue operations."

The Radio Officers' Union: In the Radio Officers' News issued by the Radio Officers' Union of the Commercial Telegraphers Union, A. F. of L. (exhibit 9, pp. 5 and 6), the device is enthusiastically endorsed in the following language:

"The original doubts of the shipowners and radio officers have been swept away. The selector works efficiently and is a money-saving device. The equipment has brought about considerable reductions in sailing time through diversion orders being received promptly. Actually savings have been run into hundreds and thousands of dollars and the equipment has shown that it will pay for itself from time and money saved, regardless of an occasional few dollars of overtime paid to the radio officer. The selector is a boon to the radio officer. It increases efficiency, simplifies work, and will help maintain an amicable relationship with the master. Even considering this equipment's various present-day uses, the wide and unqualified approval that it has received, has earmarked it for a much bigger job in the future. The airlines, coastal stations, point-to-point systems, and others will undoubtedly find it useful. Air-sea coordination and air-sea rescue are other probabilities. The complete usefulness and versatility of the selector have by no means been completely utilized and its application in the future will certainly not be restricted to the marine field."

It is to be noted that the mandatory use of this device will not cause the unemployment of any radio operator.

The radio operators: The enthusiastic reception by the radio operators can be ascertained from the following excerpts from unsolicited letters:

1. "The alarm has never once responded to a false alarm or failed in its operation at any time" (exhibit 10).

2. "* * * the alarm always worked * * *. I think this equipment a very good thing to have aboard all ships. It can be a great timesaver in the event of a diversion message sent during the night. Ordinarily the operator wouldn't receive it until the next morning and with this equipment he may get it soon after the message is originated. I was indeed very happy to have been on one of the first ships using the ship's call alarm" (exhibit 11).

3. "It is my considered opinion that the Brelco-McGoffin alarm system has proven itself many times over as a potential money and time saver insofar as steamship routing is concerned and also in expediting receipt of any and all messages" (exhibit 12).

4. "I was really amazed at the efficiency of the gadget. Not one false alarm all trip. I didn't have to touch it as far as maintenance is concerned" (exhibit 13).

5. "So, I hope you have got the idea that I think that ships call alarm is a damn useful piece of equipment" (exhibit 14).

The shipbuilder: In a paper presented on behalf of the Newport News Shipbuilding & Dry Dock Co. read at an annual meeting in 1947 of the Society of Naval Architects and Marine Engineers entitled "Electronics on Shipboard" (exhibit 15), the authors state the following with respect to this instrument:

"If it is a practical success, it will extend the usefulness of the radio telegraph on vessels not required to maintain continuous watch by qualified operators, and eventually may result in modification of the regulations which now are prescribed."

Since 1947 the practical success has been demonstrated and as a matter of fact in October 1948 the Newport News Shipbuilding & Dry Dock Co. in a letter (exhibit 15–A) stated:

"While we cannot comment from the shipowner's or ship operator's standpoint, we are of the opinion that this equipment should be received by them with great enthusiasm, particularly the radio operators, since it relieves them of a rather tiring duty of maintaining a continuous watch. Also it should serve a very useful purpose in affording 24-hour communication service between the shipowner's office and the ship or ships having only 1 radio operator."

Thus indicating the practical success of the unit as determined in 1948.

The institutes: National Federation of American Shipping in a telecommunication note reviews the satisfactory use of the equipment by companies, its safety potential, and finds that the operator's overtime pay is not a factor. It reports that the owner's experience is that the savings has sufficient moneysaving implications to pay for the device within a year's operation. It also has definite safety potentialities involving distress and search and rescue operations (exhibit 16)."

The public and safety at sea: A disaster at sea is a real tragedy. A rescue operation wherein 36 seamen were saved is described in exhibits 17 and 18 transmitted herewith. Behind this rescue stood the automatic radio call selector. The log of the ship (exhibit 19) that performed this task shows the part played by the equipment. The letter from the shipowner describes the part played by the radio officer (exhibit 20):

"The radio officer of the *Mormacrey* handled approximately 120 communications, being on almost continuous watch. During his infrequent and short rest periods Mr. Cowden relied on his ship's call alarm and this brought him back to his key on three separate occasions.

"Although Mr. Cowden's rest periods were brief it was very reassuring to him and to the *Mormacrey's* master to know that the ship's call alarm was on the job and keeping watch while the vessel's radio station was unmanned."

Now let us compare the rescue operation aforedescribed with a sea tragedy that occurred when the ship's call alarm was not in use.

On March 10, 1950, the U. S. S. *Elder* exploded at sea and the lives of 40 members of the crew were subjected to the torture treatments of the elements. This experience is probably one of the strongest arguments that could be offered for the use of electronic equipment which, if used on the U. S. S. *Brewster*, an American ship, would have prevented such a tragedy. This equipment, though nominal in cost, would have prevented 7 days of suffering by 40 crew members and especially would have called attention to rescue ships and planes searching for the *Elder*, and in particular the attention of the *Brewster* which admittedly passed the distressed vessel within a very short distance. It is difficult to realize that men with the responsibility of the protection of ships at sea would hesitate to procure and use new types of available and successfully proven electronic equipment.

Lt. William A. Adams, commander of the U. S. S. *Elder*, after finally being rescued, said:

"I believe it was the hand of God written across the sky tonight that was in our favor."

Thus came to an end a near tragedy in loss of lives when 40 members of the crew of the *Elder* were saved on March 18, 1950, after being adrift for 7 days in the vast Pacific. Yet, the U. S. S. *Brewster* had passed only 2 miles from the *Elder* without rendering any aid or assistance while the crew of the *Elder* "signaled with flares, a square flag, international distress signal, smoke signals, and mirrors. We fired 20-mm. guns and Very pistols. The crew jumped up and down on deck waving anything they could lay their hands on."

The failure of the *Brewster* to respond—because they did not get the signal, of course—resulted in a search of more than 500,000 square miles of ocean by ships; planes and men, the cost of which measured in dollars and cents was prohibitive. The harrowing experiences of the crewmen of the *Elder* for the 7-day period cannot be evaluated in dollars and cents.

What assurance is there that this tragic experience will not reoccur? Why cannot it reoccur and end in real tragedy with the loss of hundreds of lives? It need not, it must not, and it will not—provided each ship is equipped with ship's call alarm, the installation of which would guarantee against any failure of ship-to-ship or ship-to-shore communications 24 hours a day.

Accordingly, it is respectfully submitted that the proposed legislation as contained in H. R. 5023 is in the public interest and I urge that this committee report favorably thereon.

That is the reason, gentlemen, I introduced the bill for consideration. I have followed this closely for several years. The bill was not introduced for any particular company. There is no monopoly on it. With this instrument on a vessel that has only 1 operator, working 8 hours, or 12 hours, there is always a contact from shore to ship or ship to shore. It has proved valuable, and it seems to me with the Maritime Commission, the Moore-McCormack Lines, and other lines using it, favorable consideration of legislation along this line would be in order.

I want to congratulate you, Mr. Chairman, and members of the committee, for this procedure you have adopted of hearing sponsors of legislation referred to your

committee. I congratulated you on the floor of the House when I first learned of it. It is comparable to pretrial in the courts, and is a splendid thing. Thereby, if hearings are held later, you are familiar with the purpose of the proposed legislation, and it saves a lot of time.

The CHAIRMAN. We certainly appreciate those comments from such a distinguished leader of the House.

Any questions?

Mr. HESELTON. Is it a requirement that cargo vessels of the United States have this device?

Mr. MCCORMACK. They do not have to carry them now.

Mr. HESELTON. I am not entirely clear as to the method of reception. I understood from your statement the device was capable of receiving identifying call letters. Would it also be able to receive distress signals?

Mr. MCCORMACK. Yes. It can receive any kind of a call. A cargo vessel might be going from one port to another, and an opportunity might arise where, by going into a port in passing, they can get more business, and through this equipment the vessel could be directed to go into that port which it had not intended going into. Constant contact between shore and ship is available with this device.

Mr. HESELTON. Have you any information as to the cost of this device?

Mr. MCCORMACK. I am informed it is from $1,650 to $1,750.

Mr. HESELTON. That is all.

Mr. HARRIS. I would like to say to our distinguished friend from Massachusetts that I personally think he has brought to the attention of the committee a very worthy piece of legislation. It certainly appears to me to have a great deal of merit, and I trust the time of the committee will permit its being set on the program for consideration at this session of Congress. I assume more than one company produces these instruments?

Mr. MCCORMACK. I understand there are two companies that manufacture a system of this kind that would be serviceable.

Mr. HARRIS. To meet the requirements should this become law, I assume they would have to produce many thousands of them?

Mr. MCCORMACK. I assume that is so; yes. I might say that according to the information given to me, the larger communications companies like RCA and Mackay have been looking into this situation for some time, and have actually made purchases and have serviced the equipment worldwide.

The CHAIRMAN. A book of exhibits has been left here that will contain a great deal of the detailed information that the members may be interested in having.

Mr. HARRIS. I looked at it hurriedly a while ago, and it is very interesting. As I understand, this selector is from shore to ship and ship to shore, and not from ship to ship?

Mr. MCCORMACK. It is from shore to ship, ship to shore, and from ship to ship.

Mr. HARRIS. Thank you very much.

The CHAIRMAN. We certainly appreciate your appearance this morning, and I agree with what has been stated by Mr. Harris, that this does seem to be a very worthwhile life-saving apparatus that should have serious consideration by this committee.

Mr. MCCORMACK. Thank you very much, Mr. Chairman.

(The committee report on H. R. 6004, dated June 22, 1954, follows:)

[H. Rept. No. 1906, 83d Cong., 2d sess.]

The Committee on Interstate and Foreign Commerce, to whom was referred the bill (H. R. 6004) to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

The amendments are as follows:

Page 1, after line 2, insert the following:

"That section 3 of the Communications Act of 1934, as amended (47 U. S. C. sec. 153), is amended by adding at the end thereof the following paragraph:

" '(ee) "Automatic radio call selector" on a ship of the United States subject to the provisions of part II of title III of this Act means a device meeting the requirements prescribed for such devices in section 354 (b) of this Act and approved by the Commission."

Page 1, strike out line 3 and insert in lieu thereof the following:

"SEC. 2. Section 353 of the Communications Act of 1934, as"

Page 3, line 20, strike out "SEC. 2" and insert in lieu thereof "SEC. 3".

Page 3, line 23, after the comma insert the following:

"by striking out the words "subsection (d) of this section" in each place where they appear in the paragraphs redesignated as (5) and (6) and inserting in lieu thereof the words "paragraph (4) of this subsection","

Page 4, strike out lines 1 through 12, and insert the following:

" '(b) the automatic radio call selector installed on any ship in accordance with this part shall be capable of being set manually to simultaneously receive and identify and respond to the following international Morse code signals:

" '(1) the ship station call sign;

" '(2) the international distress signal;

" '(3) the international safety signal;

" '(4) the international urgent signal;

" '(5) any other predetermined code which is desired for use in national emergencies.

It shall provide a means for receiving such signals on the frequencies five hundred kilocycles and eight thousand three hundred and sixty-four kilocycles, selectively but with respect to frequency not simultaneously, and shall sound an alarm if, but only if, any of the above five signals are received. Such alarm shall be sounded in the radio room, on the bridge, and at such other places on the ship as may be directed by the Commission. The automatic radio call selector shall be independent, except for source of power and antenna, of any other radio equipment on the ship.' "

Page 4, strike out lines 13 and 14, and insert the following:

"SEC. 4. This Act shall take effect on the expiration of eighteen months (or such shorter period as the Commission shall determine) after the Federal Communications Commission has found that—

"(1) an automatic radio call selector (as defined in section 3 (ee) of the Federal Communications Act of 1934, as amended by this Act) is and will continue to be available, and may be installed, at a reasonable cost to shipowners; and

"(2) patents covering, or necessary to the manufacture of, such an automatic radio call selector are and will continue to be freely available for license at a reasonable royalty."

PURPOSE OF LEGISLATION

The purpose of the bill, as amended, is to require installation of an automatic radio call selector on certain cargo ships of the United States carrying less than two radio operators. An automatic radio call selector is an electronic device which would enable a ship equipped with such device to receive radio messages from shore stations and other ships while the ship's operator is off duty.

GENERAL STATEMENT

The present section 353 of the Communications Act of 1934 provides that cargo ships which must be fitted with a radio installation (as required by sec. 351 of the Communications Act) must carry more than one radio operator unless the ship is fitted with an autoalarm. Section 353 further provides that unless such cargo ship is fitted with an autoalarm, continuous watch by means of qualified operators must be kept on such ship while being navigated outside a harbor or port.

The bill would amend section 353 to provide that cargo vessels of the United States (but not other cargo vessels subject to the provision referred to above) must carry more than one radio operator unless such ship is fitted with an automatic radio call selector in addition to the autoalarm required by present law. Also, the bill would amend section 353 to provide that a continuous watch by means of qualified radio operators must be kept unless such ship is fitted with a radio call selector in addition to the autoalarm now required by present law.

The requirement of the Communications Act with regard to the installation of an autoalarm is based on the Safety of Life at Sea Convention, of which the United States is a member.

The autoalarm referred to in the present section 353 of the Communications Act responds to what is known as the international alarm signal, which is a series of 12 dashes of certain duration and with certain specified intervals between dashes. The alarm signal normally precedes the distress signal and by actuating the autoalarm alerts ships and shore stations to a distress situation when the radio operators are either off duty or are listening on other radio frequencies. Having been

alerted by the autoalarm, the radio operators can then stand by to receive the distress signal. Thus the autoalarm system is primarily one whose usefulness occurs immediately before or after a maritime disaster occurs.

The automatic radio call selector would perform a similar alerting function, but it would supplement the autoalarm by enabling ship radio operators to be alerted during situations which, although not of a distress nature, do involve maritime safety. Alerting in these situations may prevent marine disasters.

The autoalarm system now in use does not permit calling of ships in situations of difficulty not of a full distress nature. A ship carrying only a single radio operator would be cut off from messages alerting the ship to potential danger for the greater part of the day, when the ship's operator is not on duty. Additionally, the installation of call selectors aboard ships would supplement the autoalarm by substantially increasing the probability of alerting other ships during distress situations. This results from the fact that call selectors will be capable of responding to the international distress signal while presently approved autoalarms will respond only to the international alarm signal. Under international radio distress procedures, the distress signal is transmitted far more frequently than the alarm signal thereby affording repeated response opportunities to the call selector which would not be available to the autoalarm.

Specifically, for example, installation of an automatic radio call selector would facilitate and improve communications in the following manner:

(1) Specific ships known to be in the vicinity of a distressed vessel may be called directly by use of that vessel's own call sign.

(2) During protracted distress traffic the single radio officer on a cargo vessel working traffic with the distressed vessel is assisted in responding to calls when in an exhausted state after continuously operating alone over a period of days.

(3) Medical assistance and transfer of sick or injured at sea may be facilitated.

(4) Promulgation of weather and other maritime safety information may be facilitated and ships cautioned to avoid exposure to needless danger by receipt of such information.

(5) Response of ships to lifeboat transmitter signals sent by survivors whose vessels may not stay afloat till rescuers reach them will increase the rescue possibilities of such survivors.

The automatic radio call selector has been compared to the bell on a telephone. Without a bell the owner of the telephone, if away from the instrument, would not be able to receive messages since there would be no way of alerting him to the fact that another person wanted to communicate with him. Comparably, a ship which has a single radio officer on duty for 8 hours can receive messages during those 8 hours. However, for 16 hours during each day when such officer is not on duty, no messages may be received.

COMMITTEE AMENDMENTS TO THE BILL

The committee has adopted three important amendments which substantially modify the bill as originally introduced.

The bill as originally introduced in amending section 354 (b) of the Communications Act of 1954, provided that the automatic radio call selector must receive and respond to the call sign of the ship in Morse code when transmitted on the frequencies of 500 kilocycles and 8364 kilocycles. The 500 kilocycle frequency is the international distress frequency. The 8364 kilocycle frequency is the frequency to be used by radio installations on board lifeboats, liferafts, or survival craft.

Under one committee amendment, the automatic radio call selector must be capable of receiving and responding to the following:

1. The international distress signal.
2. The international safety signal.
3. The international urgent signal.
4. The ship's call sign.
5. Any other predetermined code which is desired for use in national emergencies.

This amendment was proposed by the representative of the Brelcoe Electronics Corp., which manufactures the automatic radio call selector, because the capacity of the call selector to receive the additional signals would make this instrument more useful as a safety device.

Another amendment would add to section 3 of the Communications Act a new paragraph (ee), defining "Automatic radio call selector" as a device which meets the requirements of section 354 (b) and which has been approved by the Federal Communications Commission. The committee felt that the requirement of prior approval by the Federal Communications Commission was highly desirable.

This requirement now exists with regard to the autoalarm which has been referred to above. Furthermore, the capacity of a device efficiently to meet the requirements of law should be proven by rigid tests of such device to the satisfaction of a responsible Government agency before installation becomes mandatory.

The other amendment, to the last section of the bill, would postpone the effective date of the mandatory installation requirement until 18 months (or such shorter period as the Commission may determine) after the Commission has found that (1) an automatic radio call selector is and will continue to be available, and may be installed at a reasonable cost to shipowners; and (2) patents covering or necessary to the manufacture of an automatic radio call selector are and will continue to be freely available for license at a reasonable royalty.

In the course of the committee hearings it was testified that the manufacture of automatic radio call selectors is subject to certain patents owned by Brelco Electronics Corp. The committee feels that in order to avoid monopolization in the manufacture of this device it was necessary, in the public interest, to require that the patent owner make binding commitments to the Commission that the necessary patents will be freely available and that the royalty charged for the use of such patents will be reasonable, before installation of a patented device would become mandatory.

Testimony before the committee indicated that the cost of each unit of the radio call selector as originally contemplated (designed to receive only the ship's call sign) would be approximately $1,650 and would be substantially less when manufactured in quantity (hearings, p. 14). Modification of the call selector to meet the requirements of the proposed legislation would according to the witness representing the manufacturer, involve only comparatively slight additional cost (hearings, p. 21).

The committee feels that, in the public interest, it was necessary to provide that installation of a radio call sector should be made mandatory only if the Commission was able to find on the basis of pertinent information submitted to it, that the cost of manufacture and installation of a call selector was reasonable.

CONCLUSION

While the installation of automatic radio call selectors would be mandatory only for cargo ships of the United States, it was pointed out to the committee that this equipment could serve as links in a radio network of ships which are not so equipped. The availability of this equipment on American ships might make an important contribution to safety on the high seas.

CHANGES IN EXISTING LAW

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as introduced, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

"SECTIONS 353 AND 354 OF THE COMMUNICATIONS ACT OF 1934, AS AMENDED

OPERATORS, WATCHES, [AUTO-ALARM] *AUTO-ALARM, AND AUTOMATIC RADIO CALL SELECTOR*

"[SEC. 353. (a) Each cargo ship required by this part to be fitted with a radio installation and which is not fitted with an auto-alarm, and each passenger ship required by this part to be fitted with a radio installation, shall, for safety purposes, carry at least two qualified operators.

"[(b) A cargo ship, required by this part to be fitted with a radio installation, which is fitted with an auto-alarm in accordance with this title, shall, for safety purposes, carry at least one qualified operator who shall have had at least six months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States.]

"SEC. 353. (a) At least two qualified operators shall be carried for safety purposes on—

(1) each cargo ship of the United States which is required by this part to be fitted with a radio installation which is not fitted with an auto-alarm and an automatic radio call selector;

(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radio installation and which is not fitted with an auto-alarm; and

(3) each passenger ship which is required by this part to be fitted with a radio installation.

"*(b) At least one qualified operator, who shall have at least six months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States, shall be carried for safety purposes on—*

(1) each cargo ship of the United States which is required by this part to be fitted with a radio installation and which is fitted with an auto-alarm and an automatic radio call selector in accordance with this title; and

(2) each cargo ship (other than a ship of the United States) which is required by this part to be fitted with a radio installation and which is fitted with an auto-alarm in accordance with this title.

"(c) Each ship of the United States required by this [part] *title* to be fitted with a radio installation shall, while being navigated outside a harbor or port, keep a continuous watch by means of qualified operators: *Provided, however,* That in lieu [thereof on] *thereof, on* a cargo ship *of the United States* fitted with an auto-alarm *and an automatic radio call selector* in proper operating condition, *and on a cargo ship (other than a ship of the United States) fitted with an auto. alarm in proper operating condition,* a watch of at least eight hours per day, in the aggregate, shall be maintained by means of a qualified operator.

"(d) The Commission shall, when it finds it necessary for safety purposes, have authority to prescribe the particular hours of watch on a ship of the United States required by this part to be fitted with a radio installation.

"(e) On [all ships] *any ship* of the United States fitted with an [auto-alarm, said] *auto-alarm or an automatic radio call selector, or with both an auto-alarm and an automatic radio call selector, such* apparatus shall be in operation at all times while the ship is being navigated outside of a harbor or port when the operator is not on watch.

"TECHNICAL REQUIREMENTS

"SEC. 354. (*a*) The radio installation and the radio direction-finding apparatus required by section 351 of this part shall comply with the following requirements:

"[(a)] (*1*) The radio installation shall comprise a main and an emergency or reserve installation: *Provided, however,* That on a cargo ship, if the main installation complies also with all the requirement of an emergency or reserve installation, the emergency or reserve installation may be omitted.

"[(b)] (*2*) The ship's radio operating room and the emergency or reserve installation shall be placed in the upper part of the ship in a position of the greatest possible safety and as high as practicable above the deepest load water line, and the location of such room or rooms shall be approved by the Commandant of the Coat Guard.

"[(c)] (*3*) The main and emergency or reserve installations shall be capable of transmitting and receiving on the frequencies and types of waves designated by the Commission pursuant to law for the purpose of distress and safety of navigation.

"[(d)] (*4*) The main installation shall have a normal transmitting and receiving range of at least two hundred nautical miles, that is to say, it must be capable of transmitting and receiving clearly perceptible signals from ship to ship over a range of at least two hundred nautical miles by day under normal conditions and circumstances.

"[(*e*)] (*5*) Sufficient power shall be available at all times to operate the main radio installation efficiently under normal conditions over the range specified in subsection (d) of this section.

"[(f)] (*6*) The emergency or reserve installation shall include a source of energy independent of the propelling power of the ship and of any other electrical system and shall be capable of being put into operation rapidly and of working for at least six continuous hours. For the emergency or reserve installation, the normal range as defined in subsection (d) of this section shall be at least one hundred nautical miles.

"[(g)] (*7*) There shall be provided between the bridge of the ship and the radio room, and between the bridge and the location of the direction finding apparatus, when the direction finding apparatus is not located on the bridge, an efficient means of communication independent of any other communication system of the ship.

"[(h)] (*8*) The direction finding apparatus shall be efficient and capable of receiving clearly perceptible radio signals and of taking bearings from which the true bearing and direction may be determined. It shall be capable of receiving signals on the frequencies prescribed for distress, direction finding, and radio beacons by the General Radio Regulations annexed to the International Telecom-

munication Convention in force and in new installations after the effective date of this part, such other frequencies as the Commission may for safety purposes designate.

"(b) *The automatic radio call selector installed on any ship in accordance with this part shall be capable of receiving and identifying the call letters of such ship in Morse code. It shall provide a means for receiving signals on both distress frequencies (five hundred kilocycles and eight thousand three hundred and sixty-four kilocycles), selectively and not simultaneously, and shall sound an alarm if, but only if, the call letters of such ship are received. Such alarm shall be sounded in the operator's cabin, on the bridge, and at such other places on the ship as may be directed by the Commission. The automatic radio call selector shall be independent of any other radio equipment on the ship.*"

Minority Views

The action taken by the committee on H. R. 6004 is not believed to be warranted. It is very apparent that there are not sufficient facts available concerning either the automatic radio call selector or the necessity for it in the long-established system of maritime safety radio communications to justify the legislation at this time. For the past 25 or 30 years there has already been in existence a device known as the autoalarm which has been installed generally on United States flag ships and is used internationally.

ADVERSE REPORTS

It is to be noted that all of the Government departments that would be affected have given adverse reports on the proposed legislation. The reports on the amendments which have been suggested and adopted by the committee likewise have been generally adverse.

GENERAL OBJECTIONS

The provisions of H. R. 6004 as amended by the committee, and the record of hearings on the bill, clearly indicate a lack of information and an attempt to legislate in a vacuum of uncertainty.

As originally introduced and before the amendments, H. R. 6004 referred to a device which was at least in existence, although its performance record as to reliability was questionable (hearings, pp. 42–44). A realm of complete uncertainty is created by the amendments. H. R. 6004 as now amended concerns a device not yet developed, tested, or proved operationally; it imposes new uses for the automatic call selector and there is no evidence that a device can be developed to meet such requirements. The provisions of the bill recognize this deficiency by making the legislation effective only if the Federal Communications Commission approves the automatic call selector. In other words, in the absence of the development of a satisfactory device, enactment of this proposed statute could be meaningless and as idle as "a painted ship upon a painted ocean."

PROPOSED LEGISLATION UNREAL AND UNUSUAL

Legislation of this type is most unusual. If there is doubt as to the facts, the normal procedure is to direct that a study be conducted and a factual report be compiled. There is ample precedent for this method of proceeding in many fields of legislation and specifically in the field of marine safety radio requirements. (See sec. 602 (e) of the Communications Act of 1934, as amended.)

LACK OF NEED

To enact H. R. 6004 without a preceding study might be justified if an emergency exists in the present system of marine safety radio communications and lives and property might be saved as a result of prompt congressional action. There is nothing in the record to indicate the existence of such an emergency. To the contrary, the Federal Communications Commission which is charged with the administration of safety radio requirements states that the present system "has functioned effectively for many years" (hearing, p. 47). Internationally, radio experts from leading maritime countries of the world, including the United States, after long study of maritime safety radio requirements, wrote a convention agreement which, although fortifying the present system in many respects, apparently did not find a need for the automatic radio call selector. This con-

vention, which is known as the International Convention for Safety of Life at Sea (London, 1948), and to which the United States is a party, became effective as to the United States in 1952. It is worth noting in this respect that although approximate uniformity now exists as between United States and foreign cargo vessels with respect to other safety radio requirements, about 1,250 United States cargo vessels would by reason of H. R. 6004 be subject to the radio call selector requirement while about 7,000 foreign cargo vessels plying the same ocean routes would not be subject to such requirements.

It must be concluded, therefore, that even if doubts as to the technical possibility of developing a satisfactory radio call selector are resolved, the operational utility of the device as a part of the maritime safety radio system remains questionable.

Not only the American Merchant Institute and the Association of American Ship Owners which represent a large proportion of the affected shipowners, but the Federal Communications Commission which would administer the law, felt that the radio call selector proposed in this legislation would unnecessarily duplicate to a substantial extent equipment already installed on board ships. For example, the call selector is in essence an alerting mechanism. But an alerting mechanism known as the autoalarm is already installed aboard cargo ships; at present the law, both international and domestic, restricts the use of the autoalarm to specified safety situations; if general alerting for additional safety purposes is considered to be desirable, there seems to be no reason why the law may not be changed and the autoalarm utilized for these additional purposes. However, the Federal Communications Commission seemed to feel that general alerting in certain safety situations was undesirable (hearing, pp. 47–48).

COST

It is obvious that, if an automatic radio call selector device is found to be feasible, this legislation would make it mandatory that American shipping install such equipment or require that at least two radio operators be placed on each American cargo ship.

The cost of the patented automatic radio call selector equipment as proposed in the original legislation was estimated at $1,650, with an additional cost of installation of approximately $100 (hearings, p. 19). The patent rights are held by one company and it is obvious that any other manufacturer desiring to manufacture such equipment would have to pay patent royalties to the holder of the patent. It is uncertain whether a greater cost of manufacture of the equipment would occur by reason of the amendment which has been adopted by the committee. But even assuming this estimated cost of the undeveloped equipment to be approximately accurate, this legislation could impose a total, overall $2 million burden on United States shipping. If the public benefits were clearly substantial, that cost might be reasonable. In the face of all of the uncertainties pointed out, imposition by law of this additional expense is considered to be unreasonable, unnecessary, and unwarranted.

CONCLUSION

Our objection to the bill is that the legislation is premature and unwarranted at this time, in the light of all the uncertainties.

JOSEPH P. O'HARA.
THOMAS M. PELLY.

Mr. McCORMACK. In all the years I have been in Congress I have been interested, as have the other Members of Congress, in all safety matters, whether on the railroads or on the sea, and I have been concerned for a long while about the lack of safety in a large percentage of ships which sail the sea.

The bill now before the subcommittee, H. R. 4090, is exactly the same as the amended bill which was favorably reported by the committee last year except for certain purely editorial changes.

Since my previous testimony in detail will be available to the committee as a part of the record, I will not repeat it now. I will, instead, confine my remarks to a brief summary of the bill's present provisions, and to a short discussion of the urgent need for its immediate passage.

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In essence, the proposed legislation would require that cargo vessels flying the American flag be equipped with an automatic radiotelegraph call selector capable of receiving the following international Morse code signals:

(1) The ship station call letters.

(2) The international distress signal, known as SOS.

(3) The international urgent signal.

(4) The international safety signal.

(5) Any other predetermined code signal which is desired for use in national emergencies.

This fifth feature assumes urgent importance now, for we all can agree that early and rapid communication with our merchant marine, a vital part of our defense, can make a great deal of difference in terms of our Nation's safety.

This fifth feature provides a signal that would be available for a variety of military and naval functions, both to alert our entire merchant marine and to provide critical communications around the clock—and that is important—for cargo ships.

I will not go into the technical details on the present state of communications because I understand that there is present today a representative of the American Radio Association, CIO, a union of ship radio officers, who is prepared to go into those details.

However, I want to underscore the fact that approximately 97 percent of the vessels flying the United States flag are cargo vessels on which there is but one radio officer who is on duty only 8 hours a day. For the other 16 hours each day, while that single radio officer is off duty, his ship is deaf to signals of distress, safety, urgency, and defense requirements which might serve to prevent disaster. An autoalarm, now mandatory on board cargo ships by reason of congressional legislation, may call him back during his off-duty hours when an actual distress has already overtaken a ship. The autoalarm is therefore of limited use. I am interested in saving lives at sea by taking preventive steps to forestall disasters. That is the primary purpose of this legislation—to avoid disaster at sea.

Rapid 24-hour-a-day reception of messages resulting from the use of this call selector tremendously enhances the safety potential of our ships and gives to those who sail our ships and who have property at sea the realization of safety to which they are entitled and which is long past due.

The public interest requires that safety standards at sea be maintained at the highest possible level, and it is the purpose of this legislation to fulfill this obligation to the public and to assure them that such standards are set. The American people rightfully expect and rely upon the Congress to properly legislate and protect them in those matters.

Might I say that we legislate for the betterment of the merchant marine, and I am one of the strongest supporters of such legislation. I have been throughout the years, and I shall continue to be, because I realize that the merchant marine is a very important element of our national defense, but over and above that, it is a very important element in our economic life. I am one advocating this bill from the safety angle, who is a strong advocate of a strong merchant marine.

On what grounds do those who oppose this legislation base their arguments? Boiled down, they result in one argument, an argument

that the American shipowners have used every single time a new safety requirement came before this Congress. That argument is the shallow one of cost. For a few dollars—this involves anywhere from $1,600 to $3,200, so I am informed—for a few dollars shipowners are willing to forgo the safety this device will provide for American seamen, for the property aboard ships, as well as the other interests involved.

Before me I have a statement from the United States Navy, an organization which should know something about ships and ships' safety. When they wrote to your committee last year they said that if such a device were available, they would not oppose it. Furthermore, they said that such a device would enhance the safety of life and property at sea. Just this week they advised the committee, on March 19—I have a copy of the letter before me—that even their minor qualifications of last year were removed and they now have no objection to the installation of the unit aboard ship. Surely, the Navy should know what it is talking about when it comes to this proposed legislation.

Contrast this with the shallow argument of the shipowners about the few dollars it would cost to maintain this device. The Navy looks at it objectively and comes forth with the only logical conclusion: Lives are more important than dollars. The Department of Defense, too, offers no objection to this legislation. To me, this is the most conclusive kind of evidence.

Defense officials have no objection to the enactment of this legislation, as I have said. As laymen, we must give great weight to the judgment of the military and Navy men on such technical questions, for they, after all, are the people who would use its defense features. I would much prefer to be guided by their judgment rather than by the shipowners who I understand are out in force against this legislation.

In opposing this legislation, these shipping interests are only reminding us of the reason ship radio legislation was passed in the first place. It passed the Congress because of such disasters as the great loss of life aboard the steamship *Morro Castle*. It was because of situations like this that we learned of the shocking indifference of shipowners to safety of life at sea.

Provision for safety at sea through the use of radio was the result of the Congress taking a strong and firm hand in passing Public Law 97 of the 74th Congress, after the shocking facts were disclosed by the *Moro Castle* investigation.

It is once again up to the Congress to take the initiative to regain world leadership for our merchant marine by passage of such legislation as this bill.

Our merchant marine plays a vital part in our defense. Communications have been aptly described as the nervous system of our merchant marine. Passage of this bill will make our communications the most efficient to prevent sea tragedies before they start and thereby save the lives that would be lost in them, to keep our merchant fleet alert around the clock for the Nation's defense.

I urge that the committee act immediately on this issue and not wait to be triggered into action by some sea disaster. I urge you to take the initiative to provide the ounce of prevention that can avert the need for 10,000 tons of tragedy.

I wish to congratulate the committee of last year for reporting the bill out, and I hope that this subcommittee will report the bill to the full committee and that the full committee will again report this bill out this year.

Thank you very much, Mr. Chairman.

Mr. HARRIS. Thank you, Mr. McCormack. I am sure there will be some questions.

Mr. Priest, any questions?

Chairman PRIEST. Just one question, Mr. McCormack. In your statement you said that about 97 percent of the vessels flying the United States flag are cargo vessels which have 1 radio officer who is on duty for 8 hours. During the 16 hours in which there is no radio operator on duty, which of the 5 signals you listed on page 2 of your statement may be received by that ship? Are there any of the five?

Mr. MCCORMACK. I am informed that it is the international auto-alarm distress signal which they receive, not any of these.

Chairman PRIEST. Not any of these five?

Mr. MCCORMACK. No.

Chairman PRIEST. That is the only question I have at this point, Mr. Chairman.

Mr. MCCORMACK. I might say there are others here who can answer the technical aspects.

Thank you very much, gentlemen.

Mr. HARRIS. Any questions, Mr. Wolverton?

Mr. WOLVERTON. I have no questions, except the comment that the committee last year after a full and complete hearing reported the bill favorably, and it would seem to me that the same considerations applying to the committee's favorable action last year will apply this year.

Mr. MCCORMACK. Thank you very much.

Mr. ROGERS. Just one question, Mr. MCCORMACK. What is the actual additional cost which would be required to install whatever gadget you have to install if this bill passes?

Mr. MCCORMACK. Of course I am interested in the bill simply from the angle of safety and the other beneficial results which flow. My understanding is that the outside cost would be $2,200, ranging from $1,600 to $2,200. Is that correct?

Mr. SEREYSKY. Sir, if I may identify myself, I am Mr. Sereysky, S-e-r-e-y-s-k-y.

Mr. MCCORMACK. What is your first name?

Mr. SEREYSKY. Abraham W.

Mr. MCCORMACK. What is your address?

Mr. SEREYSKY. I am at 32 Broadway, in New York City. I am an attorney-at-law, and I am an officer of Brelco Electronics Corp. of New York City, which has a business organization which has developed this particular device.

Mr. HARRIS. Very well, you may answer the question.

Mr. SEREYSKY. We originally manufactured a ship's call alarm which responded only to the ship's call station letters. That unit was sold for $1,650. This unit is an expanded unit of that ship's call alarm in that it now has five functions instead of the original single function of responding to the ship's call letters.

We have developed one prototype which was given to the FCC for testing. Based upon our estimate and our experience, it will be

naturally in excess of the cost of $1,650. It is difficult to pin it down on a particular price, but certainly the range should be measured in hundreds of dollars in excess of the original cost of $1,650.

Mr. ROGERS. Probably in any circumstances it would not go above $3,000.

Mr. SEREYSKY. I think I can assure the committee that that is so.

Mr. ROGERS. One other question about that, Mr. McCormack. Is the particular gadget involved which would be necessary to carry out the proposal in this bill manufactured by only one concern, or is there competition open so it would not be confined to one business?

Mr. SEREYSKY. Mr. Rogers, sir, I have a statement, but I am glad to answer that question at this time, even though the answer is embraced in my statement.

The particular unit at the present time is manufactured under a patent. The bill itself provides antimonopoly, that any manufacturer who desires a license to manufacture this will be granted the opportunity to manufacture it on whatever reasonable basis exists. That, too, I think you can take into account with respect to the price, because there will be competitive organizations manufacturing this particular device, and the most efficient producer of the device of course will be able to determine the ultimate price of it.

Mr. ROGERS. Thank you. That is all.

Mr. HARRIS. Mr. O'Hara?

Mr. O'HARA. Mr. McCormack, perhaps the gentleman with you can answer this. You stated in substance that this is a patented device owned by the company which you indicated in your major statement. I notice that the bill provides that it will be freely available for license at a reasonable royalty.

Mr. SEREYSKY. That is right.

Mr. O'HARA. In other words, you are not going to turn this over to any other company for manufacture without a royalty.

Mr. SEREYSKY. Although I am not a technician, from the technical standpoint there conceivably may be other ways or manners of producing an instrument which will comply with the requirements of this legislation. I do not know whether or not our particular method is all-inclusive, the method that we have developed and are using under the particular patent that we have. However, as I understand ordinary business practice, anybody who wants to manufacture it under reasonable royalty will be so licensed.

Mr. O'HARA. That applies to any patent.

Mr. SEREYSKY. Yes.

Mr. O'HARA. There is another alarm which has been installed on all American shipping and on all international shipping by international agreement, is it not true, known as the autoalarm?

Mr. SEREYSKY. That is right, sir.

Mr. O'HARA. This bill, of course, applies only to American ships and not to foreign shipping.

Mr. SEREYSKY. The present legislation applies only to American-flag-flying vessels.

Mr. O'HARA. It applies only to American cargo vessels.

Mr. SEREYSKY. Yes, sir.

Mr. O'HARA. It would not apply to passenger ships.

Mr. SEREYSKY. No, sir, because the passenger ships, under the regulations, require a human watch 24 hours a day.

Mr. O'HARA. It would not apply to the Navy.

Mr. SEREYSKY. It does not apply to any Government vessel.

Mr. MCCORMACK. You have evidence developed as to the use of it already.

Mr. O'HARA. One of my colleagues asked the question of me whether or not it would apply to all passenger ships. It would not apply to passenger vessels, as I understood you.

Mr. SEREYSKY. It would not apply to passenger vessels.

Mr. O'HARA. But they are equipped with what type of equipment?

Mr. SEREYSKY. They must carry sufficient radio operators to man the radio station on board ship 24 hours a day. Having such a human watch, we felt that there was no reason why this particular equipment was needed on board those vessels.

Mr. HARRIS. If you will indulge the Chair just a moment, Mr. Sereysky is to be the next witness. I merely bring this up at the moment to avoid repetition. I am sure he is going to testify about all these matters.

Mr. SEREYSKY. Yes, sir.

Mr. HARRIS. Unless you prefer to do it now——

Mr. O'HARA. I just want the record to show what the facts are, Mr. Chairman.

Mr. HARRIS. We want to do that, but I want to remind you he is to be the next witness.

Mr. WOLVERTON. Will you yield, Mr. O'Hara?

Mr. O'HARA. Yes.

Mr. WOLVERTON. I note your answer that the bill does not provide for passenger ships because of the fact that they are required to have a full 24-hour radio service.

Mr. SEREYSKY. That is right.

Mr. WOLVERTON. Does that apply to all passenger ships? For instance, the freighters that carry 8 passengers or 12 passengers? Does it apply to those as well as to the larger ships?

Mr. SEREYSKY. No, sir. As I understand it, if the freight carries less than 12 passengers, it is classified as a cargo vessel, and such a vessel would have the radio operator on watch only 8 hours a day, with the radio operator off duty the remaining 16 hours a day, irrespective of the fact that there are 8 passengers on board that ship as you have indicated, Mr. Wolverton.

Mr. WOLVERTON. That would require your selector in those cases?

Mr. SEREYSKY. In those cases, that being listed as a cargo vessel, this device would be required to be installed on board such ships.

Mr. WOLVERTON. I was interested in it from that standpoint because of the large increase in travel by that means, that is, by freighters.

Mr. O'HARA. Then, as I understand, Mr. Sereysky, this bill, if it passes, would require the installation of this equipment and it would require two additional operators in addition to the usual one who is carried? Is that the situation?

Mr. SEREYSKY. No, sir. At the present time when a ship is equipped with the autoalarm, it carries one single radio officer.

Mr. O'Hara. They are all equipped with the autoalarm.

Mr. SEREYSKY. Then they have only one radio officer. That radio officer would continue to serve on board that vessel with this equipment. There are no additional radio officers required on board ship.

Mr. O'HARA. In reading the bill, I got the impression that it would require both the installation of this equipment and——

Mr. SEREYSKY. And the autoalarm.

Mr. O'HARA. They have to have the autoalarm now.

Mr. SEREYSKY. That is right, sir. What the bill has done, as I interpret it, is in effect to say that wherever the autoalarm is necessary, this device is necessary along with the autoalarm.

Mr. O'HARA. Then this would still require the use of additional radio operators.

Mr. SEREYSKY. If the equipment is on board the ship, sir?

Mr. O'HARA. Yes.

Mr. SEREYSKY. No, sir.

Mr. O'HARA. If it isn't on the ship, then your bill provides that.

Mr. SEREYSKY. That is right, just the same as the autoalarm, the present provision is that if there is no autoalarm on board the vessel, I believe, they must carry in excess of a single radio operator.

Mr. O'HARA. What would this instrument do or what do you claim it would do if you have only one radio operator and he is asleep? What does it do?

Mr. SEREYSKY. If you will, gentlemen, if you can imagine your telephone without a bell, so long as you were at that telephone with the telephone to your ear you would receive all messages. As soon as you put that telephone receiver down or as soon as you walked out of the room, no message would be received. In effect, this device is like a telephone bell. As soon as any of these predetermined messages were sent, it would ring an alarm similar to the telephone bell, which would alert the radio operator to the fact that there is a message and he would be summoned to his station to take that message.

Mr. O'HARA. What would the autoalarm do?

Mr. SEREYSKY. The autoalarm will call the radio operator to his station when the international autoalarm signal is sent, and that is sent after a disaster has already occurred, and will summon him to that station in such event, and in such event only.

Mr. O'HARA. To that degree it is a duplication of the autoalarm; is it not?

Mr. SEREYSKY. No, sir; because the autoalarm is actuated by the international distress signal, and that international distress signal is sent only at the inception of the disaster which has overtaken the particular vessel which is sending that signal. This device is actuated by S O S. In the autoalarm you have a so-called one-shot chance, that is, in the inception of the disaster the international autoalarm signal being sent. However, after there has been an S O S, each message is preceded by S O S. The message and the answer are preceded by S O S. So S O S is being sent during that period of time, and this device would be actuated by the S O S, not the international autoalarm signal. S O S is a frequently repeated call during the course of such a sea tragedy.

Mr. O'HARA. Isn't S O S the international disaster signal, too?

Mr. SEREYSKY. Yes; but the S O S is not the signal which actuates the autoalarm.

Mr. O'HARA. It is another signal?

Mr. SEREYSKY. It is another signal, a series of any 4, I believe, of 16 dashes that actuates the autoalarm, which are sent at the inception of the disaster.

Mr. O'HARA. Has the Federal Communications Commission approved this device as a workable device?

Mr. SEREYSKY. They have conducted some tests, and I believe that the report of those tests is before the committee.

Mr. O'HARA. Does a ship have to sink before the automatic signal is sent?

Mr. SEREYSKY. I am sorry, I didn't understand the question.

Mr. O'HARA. A ship doesn't have to sink to send out this automatic international signal; does it?

Mr. SEREYSKY. What is that, the autoalarm?

Mr. O'HARA. Yes.

Mr. SEREYSKY. I believe it has to be overtaken by an actual disaster, sir.

Mr. O'HARA. It could be in a sinking condition.

Mr. SEREYSKY. May I ask you, Mr. O'Hara, possibly you might be able to await the answer to that question from somebody who I know is more familiar from the radio operator's standpoint with the transmission of those messages than I am.

Mr. O'HARA. It is usually sent out as soon as the accident occurs; is that not true?

Mr. SEREYSKY. From the layman's viewpoint, I think that is so, but it actually has to be in distress.

Mr. O'HARA. That is all.

Mr. HARRIS. Mr. Flynt?

Mr. FLYNT. Mr. McCormack, I would like to ask one question which you may want Mr. Sereysky to answer. Is the device which is contemplated in this bill primarily a transmitter or primarily a receiver, or is it a transmitter-receiver-type instrument?

Mr. SEREYSKY. Sir, it is a receiver which receives international Morse code.

Mr. FLYNT. It does no transmitting whatsoever?

Mr. SEREYSKY. It does no transmitting.

Mr. HARRIS. Further questions? Mr. Dolliver? Mr. Hale?

Thank you very much, Mr. McCormack. We have been glad to have your testimony.

Mr. MCCORMACK. Thank you, Mr. Chairman.

Mr. HARRIS. Mr. Sereysky, you have already testified. Do you have any further statement which you wish to make?

Mr. SEREYSKY. Yes.

STATEMENT OF ABRAHAM W. SEREYSKY, ATTORNEY AT LAW, REPRESENTING BRELCO ELECTRONICS CORP., NEW YORK, N. Y.

Mr. HARRIS. You may proceed with your testimony, Mr. Sereysky. You mentioned a moment ago that part of the information you were giving would be included in your statement. You might want to include your statement in the record at this point, and then briefly summarize that portion of it which you have not already covered.

Mr. SEREYSKY. Thank you, sir. That is what I will do.

(Mr. Sereysky's prepared statement follows:)

STATEMENT OF ABRAHAM W. SEREYSKY re H. R. 4090

I am an attorney admitted to practice at law in the State of New York, and I am also an officer of Brelco Electronics Corp. of New York City. This corporation manufacturers an automatic radio-telegraph call selector, and I am here on behalf of that business organization in support of this proposed legislation.

At the outset, I should like to briefly and generally explain the operation of this device. I can do this best by analogy. Each of us is familiar with the telephone and with the bell of the telephone. Imagine, if you will, this telephone without a bell. One could sit at his office desk or at his home, with the telephone receiver held to his ear, and unquestionably each message would be received. However, as soon as the telephone receiver were placed down, or back on the hook, or the individual left the room, and someone were to phone him, that message would never be received. This is the present state of communications on those vessels that have a single radio officer on duty 8 hours per day. During those 8 hours, while that radio officer sits in the radio shack aboard his vessel with the earphones over his ears, he can receive messages. For 16 hours a day, when he is away from the ship's radio station, no messages will be received.

The call selector acts in the same manner as the telephone bell. Any type of message, provided for by this legislation, would ring a bell placed on the navigation bridge, the radio shack, in the radio officers quarters or any other desired place. Immediately, the radio officer would be summoned to receive such message.

It is of interest to this committee, I am certain, to know how many cargo vessels would be subject to this legislation. In our merchant marine of 1,224 vessels, only 40 are passenger ships and have more than 1 radio officer. The other 1,184 vessels are cargo ships on which the single radio officer stands a listening watch for 8 hours a day. For the other 16 hours of each day, the ship is without ears, deaf to those signals of safety, communications and defense importance that might serve to prevent disaster.

The only provision now made for alerting these vessels outside the 8 hours their radio officers are on listening watch, is the device known as the autoalarm, now required by the Communications Act. But the autoalarm system may only be used when an actual disaster has overtaken a ship. The usefulness of the autoalarm is therefore limited. It cannot play a preventative role in helping vessels to avert and avoid disaster. As the committee's favorable report of June 22, 1954, so well put it:

"It would supplement the autoalarm by enabling ship radio operators to be alerted during situations which, although not of a distress nature, do involve marine disasters. The autoalarm system now in use does not permit calling of ships in situations of difficulty not of a full distress nature. A ship carrying only a single radio operator would be cut off from messages alerting the ship to potential danger for the greater part of the day, when the ship's operator is not on duty. Additionally, the installation of call selectors on ships would supplement the autoalarm by substantially increasing the probability of alerting other ships during distress situations. This results from the fact that call selectors will be capable of responding to the international distress signal, while presently approved autoalarms will respond only to the international alarm signal. Under international radio distress procedures, the distress signal is transmitted far more frequently than the alarm signal, thereby affording repeated response opportunities to the call selector which would not be available to the autoalarm."

At this point, I should like to call this committee's attention to chapter XIV, article 37, section 931 of the radio regulations annexed to the International Telecommunication Convention, Atlantic City, 1947, to which the United States is signatory. This convention provides for international regulation of radio and fixes certain technical standards and rules for the operation of the autoalarm. However, the convention envisages something beyond the autoalarm—something that the present bill incorporates. Let me read you the substantial portion of the above-mentioned section 931. I quote:

"The adoption of the alarm signal * * * does not prevent an administration from authorizing the use of an automatic apparatus * * * which can be actuated by the distress signal SOS."

Thus there is no doubt that the convention had no intention that the autoalarm serve as a bar to the further development of automatic apparatus for safety purposes, such as that explicit function of responding to the SOS spelled out in section 931 above, and embodied as one of the five functions of the device proposed by this legislation.

Turning now to the cost of this device. It is so insignificant that it is a recommendation for the legislation. Each unit of the original call selector which responded only to the call letters of the ship, sold at about $1,650 per unit. The ordinary life of ship equipment is for accounting purposes depreciated on a 5-year basis, the actual life of the equipment is far in excess of 5 years. However, on such 5-year basis, the daily cost of that equipment would have been 90 cents per day. As compared with the cost of this device, the annual charter cost of a cargo vessel at this time is about $700,000 per year, or about $1,950 per day.

Now, a new unit has been developed to accomplish a fivefold task instead of a single function. Based on the experience in developing this new unit, it must be stated that the expanded device will naturally cost more.

It must be remembered, too, that the bill embraces an antimonopoly provision permitting other manufacturers to be licensed to produce this device under the patent held by Brelco. This assures that no excessive charge will be made and that an efficient producer will always keep the equipment cost at a minimum.

As an officer of the Brelco Electronics Corp., I can assure you that it is our intent, desire, and best interest to keep the price of this device at a competitive level. It is not our desire to sell only in a market consisting of 1,184 ships flying the United States flag, but to enter the market for the thousands of foreign-flag ships as well.

It must also be noted that the Radio Technical Commission for the Marine Services, an organization consisting of representatives of various branches of the Government, the shipping industry and the communications industry, has heretofore appointed a special committee to study and report on Selective Signaling and Ringing Devices. At a meeting of the executive committee of this Commission, held on June 23, 1953, a report by this special committee was submitted. At this meeting, too, the automatic radio call selector was a subject of discussion and it was reported that the automatic calling system developed for telegraphing ships, whereby the ship's call letters actuate the device was available on the market. However, it was noted that the equipment was sold, and I quote, "in relatively small quantities and that unless the equipment was made compulsory not many would put it on," unquote.

Thus it would appear that the existence of this equipment is known to a body primarily interested in the ship's communication field, and that it would further appear from the foregoing report that legislation would be required to insure its use.

Therefore, I respectfully submit it would be in the best interest of American merchant shipping, and for the safety of personnel at sea, as well as the property shipped aboard American flag vessels, that the proposed legislation be enacted.

Mr. SEREYSKY. First, I am sure it is of interest to the committee to know how many cargo vessels would be subject to this particular legislation. From my information, I can advise that in our merchant marine of 1,224 vessels, only 40 are passenger ships and have more than one radio operator. The other 1,184 vessels are cargo ships on which the single radio officer stands a listening watch for eight hours a day. As stated before, for the other 16 hours of each day, that ship is without ears, deaf to those signals of safety, communications and defense importance that might serve to prevent disaster.

The only provision now made for alerting those vessels outside the 8 hours that radio officers are on listening watch is the device known as the autoalarm, now required by the Communications Act. As I have stated to you, the autoalarm may only be used when an actual disaster has overtaken the ship. Therefore, its use is limited. It cannot play a preventive role in helping vessels to avert and avoid disaster. I believe that this committee's report of June 22, 1954—many of the present members of the committee were members of the previous committee—best summarizes that particular factor.

I should like to call the committee's attention to chapter XIV, article 37, section 931 of the Radio Regulations annexed to the International Telecommunication Convention, Atlantic City, 1947, to which the United States is signatory. This Convention provides for international regulation of radio and fixes certain technical standards and

rules for the operation of the autoalarm. However, the Convention envisages something beyond the autoalarm, something that the present bill incorporates.

Let me read to you the substantial portion of the above-mentioned section 931, and I quote:

> The adoption of the alarm signal * * * does not prevent an administration from authorizing the use of an automatic apparatus * * * which can be actuated by the distress signal SOS.

Thus, there is no doubt that the Convention had no intention that the autoalarm serve as a bar to the further development of automatic apparatus for safety purposes, such as that explicit function of responding to the SOS spelled out in section 931 above and embodied as 1 of the 5 functions of the device proposed by this legislation.

We have already gone into the cost of the particular equipment. I am now speaking of the cost of the original call selector, which was $1,650 per unit. Ship equipment, for accounting purposes, ordinarily is depreciated on a 5-year basis, even though the actual life of the equipment is far in excess of 5 years. On such 5-year basis the daily cost of the equipment would have been just a matter of pennies.

As compared with the cost of this device, the annual charter cost of a cargo vessel at this time is about $700,000 a year, or about $1,950 per day, although, parenthetically, I may add here that in today's New York Times it is indicated that the last charters fell off by $100 during the course of the past few weeks, and they are now $1,850 per day.

It must be remembered, too, with respect to the cost that the bill embraces an antimonopoly provision permitting other manufacturers to be licensed to produce this device under the patent held by Brelco, and this assures that no excessive charge will be made and that an efficient producer will always keep the equipment cost at a minimum.

As an officer of Brelco Electronics Corp., I can assure you that it is our intent, desire, and best interest to keep the price of this device at a competitive level. It is not our desire to sell only in a market consisting of only 1,184 ships that are flying the United States flag, but to enter the market for the thousands of foreign-flag ships as well.

Naturally, with worldwide competition you have an additional factor.

It should also be noted that the Radio Technical Commission for the Marine Services, an organization consisting of representatives of various branches of the Government, the shipping industry, and the communications industry, has heretofore appointed a special committee to study and report on selective signaling and ringing devices. At a meeting of the executive committee of this commission, held on June 23, 1953, a report by this special committee was submitted. At this meeting, too, the automatic radio call selector was a subject of discussion, and it was reported that an automatic calling device developed for telegraphing ships, whereby the ship's call letters actuated the device, was available on the market. However, it was noted that the equipment was sold, and I quote, "in relatively small quantities, and that unless the equipment was made compulsory, not many would put it on."

Thus it appears that the existence of this equipment is known to a body primarily interested in the ship's communication field, and it

would further appear from the foregoing report that legislation would be required to insure its use.

I respectfully submit it would be in the best interest of American merchant shipping and of the safety of personnel at sea, as well as property aboard ships at sea, that the legislation be enacted.

Mr. HARRIS. Thank you very much, Mr. Sereysky.

Any questions, Mr. Mack?

Mr. MACK. I have no questions.

Mr. HARRIS. Mr. Wolverton?

Mr. WOLVERTON. I have been impressed by the statement you have made and which Mr. McCormack has made with respect to the efficiency of this gadget for which this bill provides. As I interpret it, it takes the place of two radiomen, is that right?

Mr. SEREYSKY. Well, I cannot say that, Mr. Wolverton, because there would be only one radio operator on board these cargo vessels at the present time, these cargo vessels equipped with the autoalarm.

Mr. WOLVERTON. I assume from your testimony that the purpose of this gadget is to give the same protection as if they were on duty.

Mr. SEREYSKY. That is right, sir.

Mr. WOLVERTON. If that is true and if it is as efficient as you claim it to be—and I do not doubt what you have said—would that have a tendency on the ships that had 3 at the present time to do away with 2 employees and put this gadget on in place of them?

Mr. SEREYSKY. Sir, this proposed legislation relates only to cargo vessels. It does not relate to the passenger ships. The passenger ships must mandatorily today maintain a 24-hour human radio watch.

Mr. WOLVERTON. So you do not have in mind that the efficiency of this with respect to cargo ships might be recognized by the owners of passenger ships and a change in the law be made in order to make that saving possible?

Mr. SEREYSKY. No, sir. There is no intent at all to remove a single radio operator from on board a ship.

Mr. WOLVERTON. Would it be, in your opinion, just as efficient in its operation on a passenger ship which now is required to have three radiomen, in the event it was reduced to one?

Mr. SEREYSKY. Sir, I think that a human watch maintained by the radio operator himself is probably the most efficient device for the reception and the transmission of messages.

Mr. WOLVERTON. Would that be because of any inefficiency in your proposed gadget?

Mr. SEREYSKY. This does not transmit. You have a transmitting element as well. This is an electronic device. It is a machine. As in all machines, it may need some adjustment from time to time. That element seems not to be present when there is a human being who is listening.

Mr. WOLVERTON. In view of the argument which is made that it is offered as an instrument for the saving of life, and if it is as efficient as you state, why is it confined to cargo vessels?

Mr. SEREYSKY. Primarily, sir, because of the fact that it was the cargo vessels which were deaf, so to speak, for 16 hours a day at the present time, whereas the passenger vessels are so equipped by manpower as to be capable of receiving 24-hour-a-day reception.

Mr. WOLVERTON. I can understand that there is no reason for it, under the circumstances, on a passenger ship, but I can also realize

that on a cargo ship whether it is 11 passengers or 12 passengers, they, together with the crew, all of whom are human individuals, are entitled to protection the same as if there were 2,000 on the ship. Those lives are just as precious in that respect as the larger number.

In addition to that, I can understand that the value of the cargo has something to do with it, too, and is entitled to protection.

The thought has come to me as you press the point of the efficiency of this gadget, whether its efficiency might not be recognized to the point that shipping companies, not only in this country but internationally, might wish to adopt it in place of having three radiomen, and have only one instead, and in that way work detrimentally to the employment of individuals and at the same time would be giving the same protection that they would have if they had three radiomen instead of one on the ship.

You do not think this would be getting the nose of the camel under the tent, which would find its way in to the extent that I have indicated?

Mr. SEREYSKY. No, sir; I do not.

Mr. WOLVERTON. I will be glad to hear what the CIO has to say when they speak for the maritime workers.

Mr. HARRIS. Mr. Rogers?

Mr. ROGERS. Mr. Sereysky, just one question. What is the reason that the present autoalarm could not be adapted to perform the same purpose?

Mr. SEREYSKY. As I say, the autoalarm at the present time responds only to a series of dashes.

Mr. ROGERS. Could that not be changed so it would respond to an SOS?

Mr. SEREYSKY. That is a signal function, the response to the international distress signal. Here you have a unit with five different selectors where sensitivity can be set to any one of these particular five signals as against a single sensitivity, let us say. The autoalarm would still have to be expanded somehow to embrace these various signals.

Mr. ROGERS. Are these five different sensitivities all present at the same time?

Mr. SEREYSKY. At the present time the sensitivity for each one of these calls can be separately set.

Mr. ROGERS. At the same time?

Mr. SEREYSKY. At the same time, yes.

Mr. ROGERS. Thank you.

Mr. HARRIS. Mr. O'Hara, do you have any further questions?

Mr. O'HARA. Yes. It is not quite clear to me. Your selector operates only when the operator is off and can be set on only one call, is that not true?

Mr. SEREYSKY. No, sir. The provision of the law is that it will simultaneously receive any one of these five calls.

Mr. O'HARA. How does it actually work? Does it actually work that way? You recall when this legislation was before us last time, it was amended to include the five calls.

Mr. SEREYSKY. That is right.

Mr. O'HARA. At that time, as I recall the testimony, the thing had not been tested. How did it work out in actual testing?

Mr. SEREYSKY. A unit, in compliance with the provisions of this particular proposed legislation, was developed during the summer months of last summer, and it was submitted to the FCC for testing sometime either at the end of September or the beginning of October of 1954, and they conducted tests on it through early January of 1955. I believe that there is a report of that test which has been submitted to this committee.

Mr. O'HARA. Have you seen the report of that test?

Mr. SEREYSKY. I have just glanced at it during the course of this morning. I have not had an opportunity to analyze it.

Mr. O'HARA. As to whether the tests were satisfactory or successful, you cannot say?

Mr. SEREYSKY. I could not say.

Mr. O'HARA. That is all, Mr. Chairman.

Mr. HARRIS. Mr. Flynt?

Mr. FLYNT. No questions.

Mr. HARRIS. Mr. Hale?

Mr. HALE. Mr. Sereysky, I notice the language of section 4 is apparently the same as the language of the same section of the bill which was reported a year ago, is that correct?

Mr. SEREYSKY. That is right, sir.

Mr. HALF. It provides that the act shall take effect 18 months or a shorter period after the FCC has found officially that the selector is and will continue to be available. Is it available now?

Mr. SEREYSKY. There is a plant in existence which is competent to manufacture it, and the reason for the 18-month delay before the act was to take effect was to give the opportunity to produce these devices. A so-called working model or prototype has been made.

Mr. HALE. What is the situation covered by subparagraph (2) of section 4?

Mr. SEREYSKY. What is the actual situation?

Mr. HALE. Yes.

Mr. SEREYSKY. Nobody has requested or asked that they be licensed at the present time, because nobody is seeking to purchase the equipment at this time.

Mr. HALE. There has been no license agreement entered into?

Mr. SEREYSKY. That is right. There is apparently no interest at the present time because nobody is seeking to purchase it.

Mr. HALE. You own the patent yourself?

Mr. SEREYSKY. Yes. Brelco Electronics Corp. is the owner of the patent.

Mr. HALE. You have no license agreements with anybody?

Mr. SEREYSKY. No, sir; no license agreements at the present time.

Mr. HALE. Is it not a rather novel provision that an act shall become effective when the article in question becomes available? That is a pretty vague requirement.

Mr. SEREYSKY. I personally am not familiar, and I am only making this statement on the basis of hearsay, but I believe that the auto-alarm was made mandatory at a time when it had not been type approved and perfected to the degree that ships were to use it. I don't know that as a fact.

Mr. HALE. How long will it take to make these? Suppose this bill became law, there would be something like 1,100 or 1,200 of these

articles or gadgets immediately required for American ships; is that not right?

Mr. SEREYSKY. No, sir, not immediately required, because the requirement would not be effective for a period of 18 months.

Mr. HALE. I understand that. I mean within 18 months you would have roughly 1,200 customers.

Mr. SEREYSKY. Yes, sir.

Mr. HALE. How long does it take to make the machine?

Mr. SEREYSKY. I cannot honestly answer that at the present moment because, as I said, just this one so-called working model has been made.

Mr. HALE. There is only one in the world today?

Mr. SEREYSKY. There was manufactured and in existence an automatic radio call selector which responded only to the ship's call letters. This was an expansion of the task of that particular unit to respond not only to the ship's call letters but to these other signals as well.

Mr. HALE. What I mean is, Is there only one pilot selector, so to speak, or prototype?

Mr. SEREYSKY. That is correct. There was one pilot selector or prototype which was made for this.

Mr. HALE. That is the only thing that ever has been made of this kind?

Mr. SEREYSKY. Insofar as this particular piece of equipment is concerned. In principle it is the same as the others that were theretofore manufactured to respond to only the single call.

Mr. HALE. But you have not had any manufacturing experience and do not know how much it is going to cost to make?

Mr. SEREYSKY. We have manufactured one, as I say, a previous selector, which responded to one call. I think you get onto the horns of a dilemma here, because nobody is going to manufacture something that people are not going to buy or use, and yet there is the expense here of the manufacture of the basic unit which is involved here.

Mr. HALE. Has there ever been any litigation regarding the patent rights, on the question of novelty?

Mr. SEREYSKY. No, sir.

Mr. HALE. That is all.

Mr. HARRIS. Mr. Dolliver?

Mr. DOLLIVER. As I understand you, sir, the device you have is an expansion of presently existing devices.

Mr. SEREYSKY. That is right.

Mr. DOLLIVER. The difference is that the presently existing devices have only an alarm signal on one particular item, and your system has an alarm signal on 4 or 5 or 6?

Mr. SEREYSKY. On 5. It originally responded to 1, and now it has been expanded to respond to the 5.

Mr. DOLLIVER. The patent you own is based upon the fact that it responds to more than one signal; is that correct?

Mr. SEREYSKY. I am not a patent attorney, but the novelty of the patent related to the manner of the selector system in responding to the Morse Code, as I understand it.

Mr. DOLLIVER. Who owns the patent and who manufactures the presently existing device which responds to only one signal?

Mr. SEREYSKY. Brelco Electronics Corp.

Mr. DOLLIVER. Is that the same people you represent?
Mr. SEREYSKY. Yes.
Mr. DOLLIVER. This is, then, an effort on their part to expand the device which they already are in possession of and hold patents on?
Mr. SEREYSKY. That is right.
Mr. DOLLIVER. Is that also a manufacturing concern, or does it merely hold the patents?
Mr. SEREYSKY. It is a manufacturing concern.
Mr. DOLLIVER. Where is its manufacturing plant?
Mr. SEREYSKY. 139 Duane Street, New York City.
Mr. DOLLIVER. Are you the principal stockholder?
Mr. SEREYSKY. No, sir; I am not.
Mr. DOLLIVER. Who is the principal stockholder?
Mr. SEREYSKY. Mr. Benjamin B. Green.
Mr. DOLLIVER. Is he here?
Mr. SEREYSKY. He is here.
Mr. DOLLIVER. Is he a witness?
Mr. SEREYSKY. He is present here. He is not a witness.
Mr. DOLLIVER. Does he live in New York, also?
Mr. SEREYSKY. Yes, sir; he lives in New York.
Mr. DOLLIVER. I think you said you are a stockholder.
Mr. SEREYSKY. No, sir, I am not a stockholder. I am related to Mr. Green.
Mr. DOLLIVER. Is Mr. Green the sole stockholder?
Mr. SEREYSKY. I don't know. It is Mr. Green and his wife, I believe, who are the stockholders. It is a closely held corporation. It is not a public corporation.
Mr. DOLLIVER. You say you are related to him?
Mr. SEREYSKY. Yes, sir. I am his son-in-law.
Mr. DOLLIVER. Actually, the firm which you represent has a large market or a relatively large market for the one-signal device, is that not true?
Mr. SEREYSKY. It would appear so, except I suppose that in the history in the last year or so, by virtue of the present pending legislation, the market has more or less shrunk.
Mr. DOLLIVER. In what way did that come about?
Mr. SEREYSKY. If it becomes necessary to substitute an expanded device in lieu of the present device for one call letter, the attitude is "Let's wait and see what happens."
Mr. DOLLIVER. The device presently in use is required by international agreement on all vessels, is it not?
Mr. SEREYSKY. No, sir. We do not manufacture the autoalarm.
Mr. DOLLIVER. That is what I am talking about.
Mr. SEREYSKY. We do not manufacture the autoalarm.
Mr. DOLLIVER. What is the difference between the autoalarm and the item that you do make?
Mr. SEREYSKY. The autoalarm is a device which responds to the international distress signal.
Mr. DOLLIVER. The SOS?
Mr. SEREYSKY. No, not the SOS. It is an international distress signal which actuates the autoalarm, which is required on board these vessels by congressional legislation.
Mr. HARRIS. Will the gentleman yield?
Mr. DOLLIVER. Yes.

Mr. HARRIS. Perhaps it would be helpful if you explained the differences between the distress and S O S signals.

I thought the S O S signal was the distress signal.

Mr. SEREYSKY. That is not the signal. The S O S is not the signal which actuates the autoalarm. It is the international autoalarm signal.

Mr. DOLLIVER. That is a signal different from the S O S signal?

Mr. SEREYSKY. Yes, sir.

Mr. HARRIS. I think probably we will have a little further explanation of that when the Commissioner appears as a witness.

Mr. DOLLIVER. The device which you are presently manufacturing, then, is a one-signal device. Does it comply with the international requirements?

Mr. SEREYSKY. It was not intended to comply with the international requirements. It was a device which is used by shipowners for the purpose of obtaining ready communications with their vessels.

Mr. DOLLIVER. You have not quite answered my question. Suppose a cargo ship operating under the American flag or the Swedish flag should install your equipment, would it thereby comply with the international understanding with respect to autoalarm?

Mr. SEREYSKY. No.

Mr. DOLLIVER. Then if this legislation were passed, under international agreement our vessels would have to have not only the autoalarm but also this equipment which you propose?

Mr. SEREYSKY. That is right.

Mr. DOLLIVER. Would that in any way be a duplication of equipment?

Mr. SEREYSKY. No. As I have said, I believe, the autoalarm serves one task. The autoalarm was perfected many, many years ago, I think approximately 30 years ago. There hasn't been any change of any substance in the radio station on board ship, irrespective, I think you must admit, of changes in this electronics age during that period of time. Technologically the United States has arrived at a certain point. Are we to deny to American shipping the benefit of technological improvements and await some other standards which are minimum when they are set worldwide?

Mr. DOLLIVER. Do I understand you to say there has been no change in the wireless equipment of American vessels since the inception of wireless?

Mr. SEREYSKY. No. I said the autoalarm, which is for the distress purpose, was perfected and installed on board ship some 20 to 30 years ago, and that was the last effective change insofar as ready available communication with a ship was concerned in that period of time.

Mr. DOLLIVER. That was by international agreement?

Mr. SEREYSKY. Yes, sir.

Mr. DOLLIVER. Have you made any effort to procure an international agreement with respect to your device?

Mr. SEREYSKY. No; we have not.

Mr. DOLLIVER. What, in your opinion, would be the competitive effect of the installation of this device upon American vessels when Panamanian vessels or Swedish vessels or Norwegian vessels or Dutch vessels or any other vessels would not be required to have it?

Mr. SEREYSKY. When you say "competitive effect," do you mean, sir, on cost?

Mr. DOLLIVER. Yes.

Mr. SEREYSKY. As I pointed out, you have a charter cost to a vessel of some $700,000 or thereabouts during the course of each year. The cost of this equipment amounts to practically pennies during a day when you depreciate it on the basis of a 5-year depreciation scale. Actually the equipment will last longer than 5 years, and that is giving the benefit to the equipment.

Mr. DOLLIVER. You are saying that in the face of the fact that all that has ever been manufactured of this equipment is a prototype piece, and there never has been any production line manufacture of this. Only one has been produced, is that right?

Mr. SEREYSKY. That is right. But there has been a basic unit of which this prototype is an expansion.

Mr. DOLLIVER. That is what I say. You make the flat prediction that it will last far longer than the depreciation period, and yet you base that upon the production of one prototype.

Mr. SEREYSKY. No, sir. The predecessor unit, the basic unit which was manufactured by this company, was manufactured originally some time in 1947, and it is still in existence.

Mr. DOLLIVER. I must not take much longer, but one thing which puzzles me is that you say you already manufacture and there is in use a piece of equipment by you with one alarm signal on it.

Mr. SEREYSKY. That is right, sir.

Mr. DOLLIVER. But that is not sufficient to comply with the international requirements?

Mr. SEREYSKY. It has nothing to do with the international requirements.

Mr. DOLLIVER. Do you find a market for that at all?

Mr. SEREYSKY. We have sold to the Maritime Administration approximately 108. It has been sold to the Coast Guard. It was sold to Moore-McCormack. It was sold to quite a few shipowners and operators.

Mr. DOLLIVER. But you have not been able to send out on its own merits as yet any of your multialarm device?

Mr. SEREYSKY. The sale of any of this equipment apparently now has more or less ceased until there is a determination with respect to this particular matter. You must remember, from what I have ascertained, the shipping industry is very slow in obtaining improvements on board ship.

Mr. DOLLIVER. That is all, Mr. Chairman. Thank you.

Mr. HARRIS. Mr. Sereysky, May I ask you 2 or 3 very brief questions?

Your present device to which you refer, which you make, responds only to the call letters of a ship?

Mr. SEREYSKY. That is right.

Mr. HARRIS. That device costs $1,650 per unit?

Mr. SEREYSKY. That is right.

Mr. HARRIS. What does this multipurpose device cost?

Mr. SEREYSKY. We have not broken it down on a cost basis, sir, because, as I have stated, we are not in production.

Mr. HARRIS. Could you make some estimate?

Mr. SEREYSKY. Certainly it won't cost twofold. That I think I am reasonably sure of. It will cost a few hundred dollars more than the present one.

Mr. HARRIS. Mr. McCormack made the statement a few moments ago that he understood the cost would be somewhere between $1,600 and $2,200. Would you say that would be a safe estimate?

Mr. SEREYSKY. I think a safe estimate is probably in the area of $2,200, $2,300, or $2,400.

Mr. HARRIS. The autoalarm is required by the Federal Communications Act, is it not?

Mr. SEREYSKY. That is right.

Mr. HARRIS. Consequently, since the autoalarm is a requirement of the act, you certainly are not in position to go in and compete against a system which is required.

Mr. SEREYSKY. That is true.

Mr. HARRIS. What would be the cost of the autoalarm device?

Mr. IRVING BROWNSTEIN (Assistant Chief, Marine Division, Federal Communications Commission). $1,800, from a man who is in position to know—Mr. Symonds.

Mr. HARRIS. Does the automatic selector which you propose contain the same distress signal as the autoalarm?

Mr. SEREYSKY. No, sir.

Mr. HARRIS. Therefore, it would be necessary to have both of them.

Mr. SEREYSKY. Yes, sir.

Mr. HARRIS. Thank you very much.

Mr. Wolverton?

Mr. WOLVERTON. You are the attorney for the company which has the patent for this device?

Mr. SEREYSKY. Yes, sir.

Mr. WOLVERTON. What is the name of the company?

Mr. SEREYSKY. Brelco, B–r–e–l–c–o, Electronics Corp.

Mr. WOLVERTON. Did that company originate the patent, or did it purchase it from someone else?

Mr. SEREYSKY. It was originally developed by engineers in the predecessor corporation of this Brelco Electronics Corp., which was then called the Brelco Corp., by one of the people on the staff of this Brelco Corp., and Brelco Electronics Corp. purchased it from this inventor and owns it outright.

Mr. WOLVERTON. Your company, then, did not originate it. It was a matter of purchase from someone else who did originate it.

Mr. SEREYSKY. A purchase and agreement, from somebody who was in their employ at that time.

Mr. WOLVERTON. Was your company formed for the purpose of taking over this patent?

Mr. SEREYSKY. No, sir. The company was engaged and has been engaged in manufacturing other types of equipment.

Mr. WOLVERTON. What is its capitalization?

Mr. SEREYSKY. I know that the total investment of the principals was a few hundred thousand dollars.

Mr. WOLVERTON. How much capital has been paid in?

Mr. SERESKY. May I submit the answer to that, Mr. Wolverton, after I have had an opportunity actually to gather the facts?

Mr. WOLVERTON. Yes. Being the attorney for the company and filing reports for it, as would be required, I thought you would have that information.

Mr. SEREYSKY. I have not had occasion to look at that.

Mr. WOLVERTON. Very well, you may get it and supply it.

How many stockholders does the company have?

Mr. SEREYSKY. It consists of Mr. and Mrs. Benjamin B. Green.

Mr. WOLVERTON. I understood you to say it produces other electrical instruments or appliances.

Mr. SEREYSKY. Other equipment in the communications field, a telegraph key of some sort, jacks, that is, radio jacks. Not being technical, I don't know precisely what the others are.

Mr. WOLVERTON. How many people does the company employ?

Mr. SEREYSKY. May I supply those figures to you, Mr. Wolverton?

Mr. WOLVERTON. Does it have a factory?

Mr. SEREYSKY. Yes. It is located at 139 Duane Street.

Mr. WOLVERTON. What city?

Mr. SEREYSKY. New York City.

Mr. WOLVERTON. Have you visited the factory?

Mr. SEREYSKY. Yes, sir.

Mr. WOLVERTON. Generally speaking, how many employees are employed there?

Mr. SEREYSKY. I have seen 50 to 75 people around there.

Mr. WOLVERTON. At work?

Mr. SEREYSKY. Yes, sir.

Mr. WOLVERTON. What was the extent of its production last year?

Mr. SEREYSKY. Is that on a volume basis or a dollar basis, sir?

Mr. WOLVERTON. Either or both.

Mr. SEREYSKY. Insofar as this particular unit was concerned, during the course of the last year none, so far as I know, were produced. I know that there is an inventory of the basic component of one hundred and-some-odd at the present time.

Mr. WOLVERTON. What was the value of the other products that the company manufactured during the past year?

Mr. SEREYSKY. It was small. It was not large. I can say that to you.

Mr. WOLVERTON. What was the extent of it?

Mr. SEREYSKY. I am in the peculiar position, Mr. Wolverton, that I am not present at that place of business ordinarily during the course of the day. I am an attorney who is actively engaged in practice, and except for occasional visits to the place of business——

Mr. WOLVERTON. I assume you could get that information.

Mr. SEREYSKY. Yes, sir.

Mr. WOLVERTON. Does it have a sales organization?

Mr. SEREYSKY. At the present time the sales organization is at a minimum.

Mr. WOLVERTON. Was any effort made to sell this product to shipping before any application was made for legislation to compel it?

Mr. SEREYSKY. Oh, yes, sir, it was being sold to the industry.

Mr. WOLVERTON. To what extent was it sold?

Mr. SEREYSKY. As I recall—I don't have the figures before me now—there were approximately 200 or 250 of these units which were sold. They were sold not only here in the United States, but they were sold to some foreign vessels and some foreign shipping interests. They were purchased, as I have said, by the Maritime Administration. They were purchased——

Mr. WOLVERTON. At what price were they sold?

Mr. SEREYSKY. The unit was sold at approximately $1,650.

Mr. WOLVERTON. Is it in operation by those to whom it was sold?

Mr. SEREYSKY. I would presume so. If they maintain it, it is being operated.

Mr. WOLVERTON. Would you not be interested from the company's standpoint in whether they were using it or the degree of efficiency or helpfulness which had resulted from its use?

Mr. SEREYSKY. We have had reports from some companies in which they praised the device. We have had reports from some individuals who have said that they were told not to maintain it.

Mr. WOLVERTON. There is no doubt at all in my mind as to the value of it as a device, and it is surprising to me that it is not readily salable without compulsion. When you think of a ship being worth a million or two million or more dollars and the number of employees it has on it, in addition to whatever number of passengers it may carry and the value of the cargo that it carries, it would seem to me that that side of the ledger is a very large one compared to the relatively small cost of this gadget. For that reason I am wondering if you ran up against a sales proposition which seemed to necessitate coming to Congress for legislation which would compel the purchase of it.

Mr. SEREYSKY. I think it is actually the dollars and cents. If you may recall, Mr. Wolverton, there was testimony at the time of the last hearing that at the end of the last war there were radio lifeboat transmitters, I believe, that were on board ships. They were there for the shipowner's use and maintenance, without any cost to them. But because there were a few dollars involved and there was the question of maintaining this equipment, as I recall the testimony they were removed from the ships.

In the event of a disaster, a lifeboat transmitter on board one of these vessels would be of tremendous help and importance in saving lives.

Mr. WOLVERTON. It may or may not be appropriate for me to ask this question, and I ask it merely that you may consider it and decide whether you wish to answer it for the record or not. You may not have the information today, in view of the fact that you do not have other information which I have asked for, and I will leave the answer to this question entirely to your willingness.

What was paid for the patent and what were the terms under which the patent was purchased? You do not have to answer it now if you do not wish to.

Mr. SEREYSKY. No, I can state that. There had been some one-hundred-and-some-odd that were manufactured, and a royalty was paid to the particular man who was working for us who then owned the patent, for the manufacture of each one of those. That is, he had received some many thousands of dollars as a royalty.

Then at that time, after he had received all that sum of money, we paid him an additional, I think the figure was $8,000 for the patent.

Mr. WOLVERTON. Then your company owns the patent at the present time.

Mr. SEREYSKY. Yes, sir.

Mr. WOLVERTON. But at the time you manufactured the 108, you did not own it, did you?

Mr. SEREYSKY. At the time when it was originally being manufactured, there was an engineer in our place who was the inventor, and we had a so-called licensing agreement from him.

Mr. WOLVERTON. What is his name?

Mr. SEREYSKY. Walter W. McGoffin, and the device was known as the Brelco-McGoffin ship's call alarm.

Mr. WOLVERTON. It has a patent number, I assume.

Mr. SEREYSKY. Yes.

Mr. WOLVERTON. Has the patent been granted?

Mr. SEREYSKY. Yes.

Mr. WOLVERTON. Will you furnish for the record the patent number? I do not mean that you should do it now if you do not have the information with you. Make it available for the record.

How much royalty was paid to him on each manufactured article?

Mr. SEREYSKY. It was approximately $100 per unit.

Mr. WOLVERTON. Does that agreement still hold? Is it still in existence?

Mr. SEREYSKY. Oh, no ,sir.

Mr. WOLVERTON. So at the present time there would be no necessity of your company paying a royalty to anyone?

Mr. SEREYSKY. No. We own the patent ourselves now.

Mr. WOLVERTON. I wanted to make that clear.

Have you at any time offered the gadget to anyone else for sale or have you fixed any prices of royalty for the manufacture of it?

Mr. SEREYSKY. No; we have not. There has been no occasion so to do, sir.

Mr. WOLVERTON. In other words, you have had no applications for the manufacture of it?

Mr. SEREYSKY. That is right.

Mr. WOLVERTON. Have you made any effort to have it manufactured on a royalty basis?

Mr. SEREYSKY. No, sir. You mean this particular present device? No, there has been no effort to have it made.

Mr. WOLVERTON. What was the date on which you obtained ownership of the patent?

Mr. SEREYSKY. Approximately 1950, 1951, someplace through there, 1952.

Mr. WOLVERTON. How soon after the purchase of it was legislation introduced in Congress to compel its use?

Mr. SEREYSKY. I would say 3 years. I think the original bill was introduced approximately a year and a half ago.

Mr. WOLVERTON. As I have been able to interpret the opinions of others, and I may be wrong in doing it—I certainly do not intend to put opinions in other minds other than what they already have—it would seem to me that one of the things that offsets the value of it from the lifesaving standpoint, which I suppose most people would be in favor of, was the fear that there might develop a monopoly which would give an unduly advantageous position to the company which holds it, as a result of legislation which would compel its use.

I think that has been the thought on the part of some. Whether it is justified or not, I am not arguing at the present time.

Have you any statement you would wish to make which would allay the fears of those who may have opposed it in the past on the basis of its being a monopoly or that it would tend to be a monopoly?

Mr. SEREYSKY. At the time of the hearings on H. R. 6004 it was suggested, upon my own recommendation and thought, that this so-called antimonopoly provision be incorporated in this bill, and I assured or attempted to assure the members of the committee that there was no desire to monopolize this field, which is the field of safety of human beings, by my company, and that in their usual business course for licensing, that any manufacturer who wanted to get a license could obtain the same.

Mr. O'HARA. Mr. Chairman, I have a couple more questions to ask which have been suggested by the questions of the other members, and my attention has been called to the record of last year about several matters.

Mr. HARRIS. If the Chair may do so, I shall have to ask this witness to stand aside. I had no idea that there would be this much time involved. Commissioner Webster must catch a train at 12 o'clock, and I promised him that I would try to accommodate him.

I am going to ask you to step aside, Mr. Sereysky, so at this time we may hear Commissioner Webster.

Commissioner, we shall accommodate you so you may catch your train. I do not know whether we have held you too late already, or not. We will be glad to hear you.

Commissioner WEBSTER. Thank you, Mr. Chairman, for the courtesy of permitting me to go on this early. My interest in this problem is such that I would remain here as long as this committee would like to hear from me. While I am going to catch the first train I can after this meeting, I will remain if anyone would like to have any questions answered by me.

Mr. HARRIS. You are very kind, and we appreciate your willingness to cooperate, even though it might be a sacrifice by you.

Prior to your testimony, I should like to include in the record reports from the Department of the Treasury, from the Bureau of the Budget, from the Department of the Navy, from the Secretary of Commerce, and from the Federal Communications Commission.

Would you like to have the statement which comes with the report of the Federal Communications Commission follow the letter?

Commissioner WEBSTER. Yes, sir; I would. I have a copy here, not knowing whether you had received it or not.

Mr. HARRIS. Let it be included in the record following the letter from the Federal Communications Commission of March 17, 1955.

(The documents referred to follow:)

TREASURY DEPARTMENT,
Washington, March 21, 1955.

Hon. J. PERCY PRIEST,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Treasury Department on H. R. 4090, to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radiotelegraph call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

The purpose of the bill is to require installation of an automatic radiotelegraph call selector on certain cargo ships of the United States carrying less than two radio operators. The bill if enacted would become effective 18 months, at most, after the Federal Communications Commission has found that an automatic radiotelegraph call selector is available at a reasonable cost to shipowners. An automatic radiotelegraph call selector is an electronic device which would enable a ship

equipped with such device to receive and identify certain international Morse code signals from shore stations and other ships when the ship's operator is off duty.

The Treasury Department has no objection to the enactment of the proposed bill.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to your committee.

Very truly yours,

H. CHAPMAN ROSE,
Acting Secretary of the Treasury.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington 25, D. C., March 21, 1955.

Hon. J. PERCY PRIEST,
Chairman, Committee on Interstate and Forence Commerce,
House of Representatives, Washington 25, D. C.

MY DEAR MR. CHAIRMAN: This is in reply to your letter of February 21, 1955, requesting the views of the Bureau of the Budget with respect to H. R. 4090, a bill to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radiotelegraph call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

While the Bureau of the Budget fully supports the objective of promoting safety of ships at sea through improved radio communications, we believe the committee will wish to examine carefully whether enactment of H. R. 4090 at this time would contribute materially to the achievement of this objective. The reports of the Department of Commerce and the Federal Communications Commission raise important and as yet unresolved questions concerning the technical reliability and operational utility of the particular device specified in H. R. 4090.

In view of the above, the Bureau of the Budget suggests that consideration be given to further study and experimentation before enacting legislation which would require installation of expensive equipment subject only to findings of (*a*) availability of the device, (*b*) availability of suitable patent licenses, and (*c*) reasonable cost.

Sincerely yours,

HAROLD PEARSON,
Assistant Director.

DEPARTMENT OF THE NAVY,
OFFICE OF THE JUDGE ADVOCATE GENERAL,
Washington 25, D. C., March 19, 1955.

Hon. J. PERCY PRIEST,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

MY DEAR MR. CHAIRMAN: Your request for comment on the bill H. R. 4090, "To amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radiotelegraph call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes," has been assigned to this Department by the Secretary of Defense for the preparation of a report thereon expressing the views of the Department of Defense.

The purpose of this measure is to require that cargo ships of the United States which carry less than two radio operators shall have installed an automatic radiotelegraph call selector. This call selector would be capable of being manually set to receive and identify (a) the ship station call sign, (b) the international distress signal, (c) the international safety signal, (d) the international urgency signal, and (e) any other predetermined code which is desired for use in national emergencies. Upon receiving and identifying one of the above code signals, the call selector shall be capable of sounding an alarm in the radio room, on the bridge, and any other place in the ship which the Federal Communications Commission may direct.

The Department of the Navy, on behalf of the Department of Defense, interposes no objection to the enactment of this legislation.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Department of the Navy has been advised by the Bureau of the Budget that there is no objection to the submission of this report on H. R. 4090 to the Congress.

For the Secretary of the Navy.

Sincerely yours,

IRA H. NUNN,
Rear Admiral, USN, Judge Advocate General of the Navy.

THE SECRETARY OF COMMERCE,
Washington 25, March 17, 1955.

Hon. J. PERCY PRIEST,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

DEAR MR. CHAIRMAN: This letter is in reply to your request of February 21, 1955, for the views of this Department with respect to H. R. 4090, a bill to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radiotelegraph call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

The main purpose of the bill is to require the installation of an automatic radiotelegraph call selector on certain cargo ships of the United States.

The bill would amend section 353 (a) of the Communications Act of 1934 (47 U. S. C., sec. 353 (a)) so that each cargo ship of the United States which is required by the act to be fitted with a radiotelegraph installation, and which is fitted with an autoalarm and an automatic radiotelegraph call selector, need only have one qualified operator. The automatic radiotelegraph call selector would be carried in addition to the radio autoalarm receiver already installed in compliance with the International Convention of the Safety of Life at Sea, 1948.

Section 355 of the act would be amended by adding a provision that the automatic radiotelegraph call selector installed on any ship shall be capable of being set manually to simultaneously receive and identify and respond to these international Morse code signals: Ship station call sign, international distress signal, international safety signal, international urgency signal, and any other predetermined code desired for use in national emergencies. It shall also be capable of receiving such signals on the frequencies, 500 kilocycles and 8,364 kilocycles, selectively, shall sound an alarm if any of the above signals are received, and shall be independent of any other radio equipment on the ship.

Section 4 of the bill provides that the provisions thereof shall take effect 18 months (or shorter period as the Commission determines) after the Federal Communications Commission has found that the radiotelegraph call selector continues to be available, may be installed at a reasonable cost, and patents necessary to the manufacture of such call selector will be licensed at a reasonable royalty.

There appears to be no reason why an automatic radiotelegraph call selector should be made compulsory for United States cargo ships carrying only one radio operator. Title III, part II of the Communications Act of 1934, as amended, is concerned with radio regulations designed to enhance the safety of life and property at sea. Autoalarms are now compulsory equipment on all merchant ships of the United States which carry radiotelegraphy installations and are tuned to the international distress frequency when the radio operators of a ship are not on watch. This alarm actuates a bell and a light, both in the radioroom and the pilothouse, and a bell only in the radio operator's room. It is not believed that the installation of the automatic radiotelegraph call selector would make a substantial contribution toward the safety of United States cargo ships already equipped with autoalarms.

Reports on experience with automatic call selectors have been limited to those designed to respond to one predetermined signal submitted in the international Morse code, usually the ship's radio call sign. It is believed that the installation of radiotelegraph call selectors will involve a considerable increase in maintenance and operating problems as additional electric circuits and mechanical adjustments are added to provide for the reception of the separate international Morse code character combinations as would be required by the bill.

Reports of experience on the use of call selectors designed to respond to one predetermined signal have indicated that with proper maintenance and some forethought in their use call selectors can be useful in connection with certain specialized functions. Installation of such equipment should, therefore, be optional with shipowners, predicated on their particular needs. Inasmuch as

available data does not indicate the need for the automatic call selectors, either of the earlier type or of the type described in the bill, as an additional safety device on board ships, the Department recommends against enactment of H. R. 4090.

We have been advised by the Bureau of the Budget that it would interpose no objection to the submission of this letter.

Sincerely yours,

SINCLAIR WEEKS,
Secretary of Commerce.

FEDERAL COMMUNICATIONS COMMISSION,
Washington 25, D. C., March 17, 1955.

Hon. J. PERCY PRIEST,
Chairman, House Committee on Interstate and Foreign Commerce,
Washington 25, D. C.

DEAR CONGRESSMAN PRIEST: This is in reply to the request of your committee for the Commission's comments concerning H. R. 4090, a bill to amend the Communications Act to require the installation of an automatic radiotelegraph call selector on cargo ships of the United States carrying less than two radio operators.

Enclosed are copies of the Commission's comments concerning H. R. 4090. Your committee has also requested the Commission's comments concerning H. R. 129, a bill introduced by Congressman McCormack to accomplish the same objectives as H. R. 4090. Since H. R. 4090 is obviously intended as a revision of H. R. 129, and is identical with the earlier bill except for certain editorial changes and two minor substantive revisions which are discussed in the Commission's comments, the Commission is not submitting separate comments on H. R. 129. The enclosed comments concerning H. R. 4090 are also applicable, except to the extent indicated, to H. R. 129.

The Commission will be pleased to furnish any additional information or comments concerning this proposed legislation which your committee may desire. The Bureau of the Budget has informed us that it has no objection to the submission of the enclosed comments to your committee.

Sincerely yours,

ROSEL H. HYDE,
Acting Chairman.

COMMENTS OF THE FEDERAL COMMUNICATIONS COMMISSION ON H. R. 4090, A BILL TO REQUIRE INSTALLATION OF AN AUTOMATIC RADIOTELEGRAPH CALL SELECTOR ON CERTAIN CARGO SHIPS OF THE UNITED STATES

GENERAL CONSIDERATIONS

The bill would amend part II of title III of the Communications Act of 1934, as amended, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two qualified operators. Generally, the proposed requirements concerning automatic radio call selectors parallel the current provisions of the act concerning the installation and use of autoalarms with reference to cargo ships of the United States. The Commission's comments are directed solely to the relationship of the bill to the existing maritime radiotelegraph safety system from the point of view of fostering safety of life and property at sea.

Part II of title III of the Communications Act requires that a radiotelegraph equipped cargo ship subject to that part must carry at least 2 qualified operators unless it is fitted with an autoalarm, in which case only 1 qualified radio operator having certain experience need be carried. When only 1 operator is carried under this provision, a watch by a qualified operator of at least 8 hours per day, in the aggregate, is required. These requirements are applicable to all United States cargo ships of 1,600 or more gross tons navigated in the open sea. In addition they are applicable to cargo ships of 500 to 1,600 gross tons navigated in the open sea which elect to carry radiotelegraph installations to meet compulsory radio requirements of the Communications Act. Foreign cargo ships of the same categories which belong to a country not party to the Safety Convention are subject also to these requirements when they leave, or attempt to leave, any harbor or port of the United States for a voyage on the open sea.

The proposed bill would amend the act to provide that a cargo vessel of the United States required to be fitted with a radiotelegraph installation may carry

1, instead of 2 or more, qualified operators only when the ship is fitted with an automatic radio call selector in addition to an autoalarm and that an 8-hour-per-day watch is sufficient only when the ship is fitted with a call selector as well as an autoalarm, both in proper operating condition and both in operation during the entire period the qualified operator is not on watch and the ship is outside a harbor or port. The proposed amendment sets forth certain functions which the call selector would have to perform. In addition, it contains a provision that this amendment to the act will not take effect until 18 months (or such shorter period as the Commission may determine) after the Commission makes certain findings with respect to the availability of the automatic call selector, as a calling and safety device approved by the Commission.

To date, all laws requiring the installation of radiotelegraph equipment aboard ocean vessels, including part II of title III of the Communications Act have been primarily on an established international maritime radiotelegraph safety system. The provisions of this bill, however, apply only to United States cargo ships and would impose on such ships the use of automatic call selectors over and above the prevailing international safety system requirements. Since such ships constitute a relatively small proportion of the world's ocean shipping, many distress situations could occur in which there would be no participating station equipped with this device.

Part II of title III of the Communications Act and the Safety of Life at Sea Convention set forth radio equipment and operator requirements for United States and foreign ships which result in the establishment and maintenance of a worldwide maritime radiotelegraph safety system on the oceans. The heart of the maritime radiotelegraph safety system is the use of a common international calling and distress frequency (500 kilocycles) upon which a watch is maintained so that in the event of distress a maximum number of ship and coast stations within the general area of the station in distress are alerted. The basic "alert signal" used for this purpose is the international radiotelegraph distress signal, which is intended to be, and usually is, transmitted by hand key and received by human operator using some aural means. The distress signal is normally preceded by transmission of the international alarm signal which is intended to, and usually does, alert a certain number of shipboard radiotelegraph operators to receive the distress signal through actuation of an autoalarm at times when such operators are either off duty or are listening temporarily on some frequency other than the distress frequency. Having been alerted by this means, the operators can then stand by to listen for the distress signal. The prevailing practice aboard cargo ships of the United States is to utilize a single qualified radio operator for 8 hours of each day, in the aggregate, and an autoalarm for the remaining 16 hours of the day.

In accordance with the proposed legislation the automatic call selector would be required to be capable of being set manually to simultaneously receive and respond to the following international Morse code signals:

(1) the ship's call signal;
(2) the international distress signal;
(3) the international safety signal;
(4) the international urgency signal; and
(5) any other predetermined code which is desired for use in national emergencies.

It would be required to receive such signals on 500 kilocycles, the international radiotelegraph calling and distress frequency, on another frequency (8,364 kilocycles), selectively but not simultaneously, or on such other frequency as the Commission may prescribe in lieu of 8,364 kilocycles.

The primarily relevant differences between the autoalarm which is now provided for in the Communications Act and the automatic radio call selector are as follows:

(1) The autoalarm responds to one signal, the international radiotelegraph alarm signal which is precisely described by treaty especially for the actuation of automatic alarms on board ships; the automatic call selector would respond to five different signals, none of which are defined with precision specifically for the automatic actuation of alarm devices on board ships.

(2) The autoalarm operates on only 1 frequency, the international radiotelegraph calling and distress frequency, 500 kilocycles, while the call selector would operate on 8,364 kilocycles (or some other frequency in lieu thereof) in addition to 500 kilocycles.

(3) The autoalarm is a device which is recognized by international agreement and its basic technical specifications are prescribed internationally on the basis of

consultation and agreement between the foremost technical experts in the international field, while the call selector is not recognized internationally and a device as specified by the bill has not, as yet, been in parctical use on board ships.

TECHNICAL CONSIDERATIONS

With regard to technical considerations bearing upon the practical use of an automatic call selector, the Commission has made certain laboratory tests of a device. Copies of a report covering these tests have heretofore been transmitted to the committee. Additional copies are attached.

On the basis of the tests and as exemplified by the automatic radio call selector tested, it is concluded that such a device is subject to the same general technical limitations inherent in all automatic selector devices including automatic alarms, utilizing the same basic engineering principles.

The tests have shown that the percentage response of the equipment in the presence of interference and noise for any particular intended signal is in part dependent upon the characteristics of the signal, how the selector is "manually set" to receive the signal, and how often the sequence of characters for which the device is set to respond is repeated in a transmission period.

The "false response" characteristics of the device have been found to depend in part upon the susceptibility of the sequence of code characters, for which each of the selector devices is set to respond, to inadvertent and uncontrolled duplication by atmospherics and signals other than the intended signal. The device in effect integrates the false response from each of the five selectors since a single warning bell is employed. For the particular test conditions the summary results on page 9 of the report indicate that in 646 hours of operation, 72 false responses were experienced which amounted to approximately 1 false response during each 9 hours of operation. This performance does not, of course, meet the requirement of the bill that an alarm be sounded only if 1 of the 5 specified signals is received. The test data indicate that reduction in the number of false responses can be expected to be accomplished by increasing the number of code characters in the sequence of characters for which the selector device is set to respond, but that such increase would probably decrease the percentage of true response. The Commission's tests to date are not sufficient to determine conclusively all operating characteristics of the call selector relative to the functions it would be required to perform if the Communications Act were amended as proposed. Assuming the bill became law, it would be expected that a complete system evaluation by technical experts of Government and industry would be made in establishing suitable detailed requirements to give the legislation proper force and effect; and that in this evaluation coordination between intelligence to be contained in the transmitted signals and that recognized by the selector device would be carried to the point of obtaining optimum balance in equipment performance, such as a high percentage of real response with a minimum of false response.

For the call selector to function most effectively in the five-signal system, the laboratory tests and inspection of the device indicate that system and equipment conditions and limitations would need to be established to:

(1) Match the speed of transmission of the intended signals to the speed acceptance range setting of the respective selectors or vice versa.

(2) Standardize the characteristics of each of the signals to be transmitted so that the selector dot, dash, space and interval controls could be set for optimum real response performance.

(3) Consistent with the design of the automatic volume control system provided in the selector, arrange for the intended signal to exceed interfering signals and radio noise to the greatest possible extent.

(4) Look toward the compulsory installation of automatic devices to transmit the five signals in coast telegraph stations and ship stations.

OPERATIONAL CONSIDERATIONS

The paragraphs immediately following relate to the automatic call selector primarily from an operational point of view with respect to its possible use for safety purposes when set up to respond to each of the five signals prescribed by the proposed legislation.

In order to evaluate the proposed use of the equipment to respond to the ship's call letters from a safety standpoint, it is necessary to analyze a distress situation. In the usual maritime distress situation, the identity of the vessels which may be in a position to render assistance to the distressed station is not at first known. Even when there is knowledge that certain vessels are in the

vicinity, their respective call letters may not be known. Accordingly, the standardized international distress procedure for radiotelegraph equipped vessels (art. 37, Radio Regulations, International Telecommunications Convention, Atlantic City, 1947) provides for the initial transmission of the international autoalarm signal so that as many vessels as possible will receive the distress call and distress messages which follow. Stations receiving the distress message from a station which is in their vicinity must immediately acknowledge receipt. Only then does distress communication ordinarily assume a more particularized form with all participating stations in the distress situation determined and distress traffic directed specifically to such stations by use of call letters. This basic plan of handling distress situations by radio has been in effect for many years and is a product of many years of worldwide experience.

Following the acknowledgment of the distress message and the determination of the call letters of participating stations, the call selector may aid in the exchange of distress communications addressed to a specific ship. At this point in the distress situation, however, the radio operators concerned would undoubtedly be on duty listening to all signals. In a long drawn-out distress situation the call selector may permit the radio operator of a vessel "standing by" to obtain some needed relief from extended watch duty while awaiting calls directed to his station. However, the Commission has no information indicating that such situations have constituted any real safety problem.

With respect to the proposed use of the equipment for response to the distress call, S O S, attention is invited to the function now served by the autoalarm. In accordance with the international radio regulations, the alarm signal (for use in case of distress) which actuates the autoalarm is a series of twelve 4-second dashes with 1 second intervals between dashes. If time permits, there is an interval of 2 minutes after termination of the alarm signal transmission before the distress call and message is sent; also the regulations prescribe transmission of the distress signal sent 3 times at the end of the alarm signal when circumstances permit. Hence, the autoalarm serves the purpose of alerting shipboard radiotelegraph operators, who are not on duty or who are not listening on the telegraph distress frequency, to the subsequent transmission of a distress call and message. The call selector would serve the similar purpose of alerting ship operators by response to a distress signal transmitted on the telegraph distress frequency in lieu of the autoalarm signal.

The alarm signal may be used also by a coast station to announce the transmission of an urgent cyclone warning. The transmission of the warning must not begin until 2 minutes after the end of the alarm signal. This delay period is to permit operators on board ship time to go on watch, after their autoalarms respond, in order to receive the ensuing call or warning.

The autoalarm system has functioned effectively for many years. The Commission's records of distress cases do not indicate any general failure of the autoalarm system to meet its objective. Further, there have been improvements from time to time in the autoalarm equipments since their introduction into use.

With respect to the proposed use of the equipment to respond to the urgency signal, X X X, the following considerations seem to be involved. Urgency signals are used by a station to indicate that it has a very urgent message to transmit concerning the safety of a ship or aircraft or of some person on board or within sight. It is in practice used to precede messages addressed to individual stations as well as to any or all stations within range. When used to announce urgent messages intended for general reception, a variety of emergency situations may be involved which, although serious, do not warrant use of the distress call. One type of such situation is the transmission of a generally addressed message for medical assistance or advice. Usually only passenger ships carry doctors, but these ships stand continuous radio watch by operators. In other types of cases, it apparently would be desirable for all vessels in the vicinity to receive a generally addressed urgent message. However, procedures established internationally for the transmission of urgency messages apparently do not contemplate use of the urgency signal to actuate alarms on board single operator vessels. This is indicated by the facts that the autoalarm signal may not be used to call attention to an urgency signal or message; that the autoalarm is not required to respond to the urgency signal; and that no delay period is provided after transmission of the urgency signal to permit operators of single operator ships to go on watch to receive the message that follows. Further, the urgency signal is not required to be transmitted on the distress frequency. Further, due to the fact that urgent messages are individually addressed as well as generally addressed, use of the urgency signal to actuate an alarm would cause unnecessary alerting. On the basis of experience with the autoalarm, ships could be alerted over a wide area,

such as the western North Atlantic Ocean, the Gulf of Mexico, and the eastern North Pacific Ocean.

With respect to the proposed use of the automatic call selector to respond to the safety signal T T T, attention is invited to the uses of the safety signal. In accordance with international radio regulations, the safety signal, normally transmitted on the distress frequency, indicates that the station is about to transmit a message concerning the safety of navigation or giving important meteorological warnings. The safety messages which follow the safety signal are usually generally addressed and intended for reception normally on the distress frequency of all ships within range. A considerable portion of the information contained in safety messages is repeated at scheduled times by coast stations and therefore may be received by the operator of a single-operator ship during his normal watch periods. However, it is probable that there would be situations in which messages of this nature received by utilization of the call selector during the normal off-watch period of the ship's radio operator would relate to conditions concerning the individual ship or need for it to render assistance. The safety signal is frequently transmitted. It is likely that under certain conditions during normal off-watch periods of the operator, the alarm actuations caused by transmissions of the safety signal would be so numerous that it would be beyond the normal physical endurance of one operator to continue to respond to them over an extended period. It is expected that such circumstances would obtain during stormy seasons of the year when the vessel is within reception range of a number of coast stations.

With regard to the use of call selectors for reception of a predetermined code during time of national emergency, the Commission does not submit comment thereon, being of the opinion that other governmental agencies are better qualified to comment on this particular aspect. It is observed, however, that during time of war, more than one operator has usually been carried aboard cargo ships.

The comments set forth above have been directed primarily toward the use of the automatic call selector on the distress frequency 500 kilocycles. Under the proposed legislation, the apparatus would also be required to function selectively but not simultaneously on the frequency 8364 kilocycles or such other frequency as the Commission may prescribe in lieu of 8364 kilocycles. International radio regulations require the use of 500 kilocycles by lifeboats, liferafts, and other survival craft compulsorily provided with radio apparatus for distress purposes and if fitted with high-frequency transmitting equipment, ability to transmit on 8,364 kilocycles. With respect to the use of the frequency 8,364 kilocycles, the international regulations have been carefully worded in order not to detract from or disrupt the existing worldwide use of 500 kilocycles as the international radiotelegraph distress frequency. Accordingly, the frequency 8,364 kilocycles is not a distress frequency in the sense of the word as normally and officially applied to the frequency 500 kilocycles. 8,364 kilocycles is basically a supplemental safety frequency for use by survival craft if they desire to establish communications with stations of the maritime mobile service relating to search and rescue operations. Normal calling of ship stations on this frequency is permissible only by aircraft stations at sea when they have some reason, usually concerning an emergency, to do so.

In view of the foregoing considerations, the Commission is not convinced, insofar as it has expert knowledge of the matter, that the net benefits to be derived from the additional proposed uses of the automatic call selector are clear enough to justify making the device mandatory at this time.

Adopted: March 16, 1955.

STATEMENT OF HON. EDWARD M. WEBSTER, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, D. C.

Commissioner WEBSTER. Mr. Chairman and members of the committee, my name is E. M. Webster, and I am a member of the Federal Communications Commission. I am appearing here today to present the views of the Commission on H. R. 4090, a bill to amend title III, part II, of the Communications Act of 1934, as amended.

H. R. 4090 proposes to establish essentially the same requirement as H. R. 6004 which was reported out of this committee in the 83d

Congress, 2d session. It would require that an automatic radio call selector be carried by United States cargo vessels of 1,600 gross tons or more and, if a call selector is not carried, then 2 or more radio operators must be provided.

Last year the Commission submitted comments on H. R. 6004 but it had not at that time examined or tested any call selector device for purposes of those comments. Since then the Commission has tested such a device at the request of Congressman McCormack and the manufacturer of the device, Brelco Electronics Corp. A report of those tests was transmitted to this committee at the request of its chairman by a letter from the Commission dated February 18, 1955.

Since the Commission's comments on this year's bill, H. R. 4090, were forwarded to the committee only very recently, I believe it would be helpful to summarize the high spots of those comments:

For ship-safety communications on the high seas where ships of all nations are in transit, there is a basic equipment, operating, and personnel formula which is required to be observed by the United States and all other maritime nations. So far as we know, this formula has functioned effectively in the interests of maritime safety for many years. This formula was reexamined and again confirmed as recently as 1948 internationally and 1954 domesticaly.

The requirement of a call selector would represent a superimposition upon this system by the United States. What would it add?

(1) Alerting if the ship's call sign is sent. In a distress situation, the only benefit from this feature would seem to be to permit the radio operator to obtain some relief from extended watch duty during a long, drawn-out distress situation. We have no information to show that such situations have occurred often enough to create a general problem.

(2) Alerting if the distress signal SOS is sent. This function is being performed under the present equipment formula by the autoalarm. The Commission records of distress cases do not indicate any general failure of the autoalarm system to perform its alerting function adequately.

(3) Alerting if the urgency signal X X X is sent. The urgency signal is used to precede messages which concern situations of an emergency nature but which do not warrant the use of the distress signal. A typical example of an urgency message is one addressed to ships in general requesting medical advice or assistance. Passenger ships which carry doctors, however, usually carry three radio operators and probably would not be carrying a call selector. In the case of other types of generally addressed messages, receipt of the message by all ships in the vicinity might be useful. However, a delay period which is not now provided internationally or domestically would have to be provided so that, following the transmission of the urgency signal, operators who are alerted would have an opportunity to go to the radio room to receive the message. Since urgency messages may be addressed to individual ships, as well as ships generally, it is worth noting that use of the urgency signal to activate call selectors in such cases could cause widespread unnecessary alerting.

(4) Alerting if the safety signal T T T is sent. The safety signal is used to precede messages concerning safety of navigation or important meteorological messages. These messages are usually generally

addressed. Many of them are repeated at scheduled times by coast stations so that single-operator ships may receive them during the single operator's normal watch period. Sometimes, however, the messages may be particularly related to the individual ship and alerting during an off-watch period could be useful. The frequency with which the safety signal is transmitted, however, particularly during stormy seasons and when the ship is within range of several coast stations, could constitute a serious problem. This problem would arise because of repeated useless actuation of the audible alarm over an extended period causing a single operator difficulty in keeping pace with the alarm.

(5) Alerting if a predetermined code is sent. This feature is directed by the bill toward use during times of national emergency. Other governmental agencies are better qualified to comment on this, but it is noted that in the past, during time of war, more than one operator has usually been carried aboard ship and listening for radio signals is done by operators rather than by a device.

The foregoing operational considerations which assume a call selector with adequate performance characteristics, must be viewed in the light of the actual performance of the only such device which has so far been brought to the attention of the Commission. The Commission's tests to date have established the following:

(1) The false response performance of the device is such that it does not meet the requirement of the bill that an alarm be sounded only if 1 of the 5 specified signals is received.

(2) The true response performance of the device will depend upon many variables, such as: the amount of interference present, the characteristics of the particular signal, the speed of the sending of the particular signal, the ability of the operator transmitting the signal to send reasonably "perfect" code characters, and so forth.

In short, passage of this bill would necessarily beget other regulations by the Commission to do at least these basic things:

(1) Match the speed of transmission to the speed acceptance range of the call selector or vice versa.

(2) Standardize the characteristics of the signals, i. e., the dots, dashes, spaces, and intervals which make up each of the signals.

(3) Arrange for the intended signal to exceed the intensity of interference signals to the greatest possible extent.

(4) Look toward the compulsory installation of automatic devices to transmit the five signals.

These equipment conditions and limitations are important because they indicate the technical and regulatory problems which would surely stem from the compulsory introduction of the call selector at this time. Of course, Commission regulations looking to the establishment of these elements which would make for effective utilization of the call selector would necessarily be applied only to United States ships, and not to approximately 7,000 foreign cargo ships which are on the same ocean routes.

In view of the foregoing considerations, the Commission is not convinced, insofar as it has expert knowledge of the matter, that the net benefits to be derived from the uses of the automatic call selector are clear enough to justify making the device mandatory at this time.

Mr. Chairman, that concludes my presentation on behalf of the Commission.

I was a party to this statement and I agreed to it. But with your permission, I should like to take advantage of section 5 (a) of the Communications Act and make known several of my own personal views.

Mr. WOLVERTON. Do I understand that you have to use section 5 (a) in order to express your views?

Commissioner WEBSTER. No, sir. I did that for the record, sir. I did not think you gentlemen would object, but I felt that perhaps it would be a good thing to have in the record so that there would be no misunderstanding as to the fact that I was speaking for myself.

Mr. WOLVERTON. I can say as one member of the committee, knowing your background and experience, we are glad to have you, whether you speak under section 5 (a) or off your cuff.

Commissioner WEBSTER. Thank you, sir.

I was not in Washington last year when this bill was being heard before this committee, and I did not have an opportunity to come up here and give my personal views. Therefore, I would like to give them today.

We have been so involved in the Commission with broadcasting and television matters in the last few days that I have not had time to reproduce my statement, therefore I shall speak from notes.

Gentlemen, with all due respect to the author of H. R. 4090, for whom I have great respect, I cannot personally support his bill. There cannot, of course, be any doubt in my mind that Congressman McCormack has approached this problem with objectivity and honesty of purpose, that of safety of life at sea, and I value highly his thoughts and efforts on the matter of safety.

I, too, am and have been, as I will indicate in a minute, an outstanding proponent for safety of life at sea, and I am therefore sure that Mr. McCormack in turn will recognize my objectivity and honesty of purpose. For I yield to no one in my interest in safety of life at sea.

I asked that I be heard today as a Government official responsible for policy decisions in the field of radio and as a Government official who has been associated with radio safety problems for many years. I feel duty bound to tell you what I think based upon that experience and background.

As to my background and experience: I have served for over 30 years as a commissioned officer in the United States Coast Guard, which, as you know, has a primary mission in connection with safety of life at sea.

Incidentally, my views here today are my own and should not be taken as Coast Guard views in any respect. That branch of the service is perfectly capable of speaking for itself.

I have spent about 8 years on the staff of this Commission, closely associated with detailed administration of marine radio matters. I have been a Commissioner now for about 8 years. I have attended all of the principal international radio conferences since 1925, many secondary international radio conferences, and innumerable domestic radio meetings. I attended both the 1929 and the 1948 Safety of Life at Sea Conferences in London, and I took a leading part in the formulation of the radio provisions of those treaties.

Incidentally, I had the honor of being the chairman of the radio committee at the 1948 conference.

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For about 2 years following the *Morro Castle* disaster off the New Jersey coast in 1934, I acted as principal radio adviser to the Congress through the Senate Commerce Committee and the House Committee on Merchant Marine and Fisheries, in the development of legislation to strengthen our laws affecting marine safety.

Part II of title III of the Communications Act, which is entitled "Radio equipment and radio operators on board ship," became effective on May 20, 1937, and it is the result of this study by Congress. This is the part of the act which is proposed to be amended by the bill under discussion here.

I am especially proud to have been of assistance to the Congress at that time, because the provisions of that legislation have stood the test of time and have been very favorably received.

Incidentally, I should like to remark that the standards on American ships for radio equipment is the highest in the world.

I have appeared from time to time before committees of Congress in regard to various radio and safety-of-life-at-sea matters, including legislation as well as treaties. When I look back over these forty-some years of my participation in safety of life at sea work, I cannot in good conscience sit by silently in this matter. The story of the use of radio in connection with marine safety ever since radio has first been used is certainly fascinating and full of romance. But, Mr. Chairman and gentlemen, I will not take your time to go into the historical details of the subject nor the part I or anyone else has played in its formulation.

All of these conferences, treaties, meetings, and legislation have had the one objective of producing a workable radio safety system which will be uniform all over the world so that ships of any nationality will not only be able to call for help when in distress, but have reasonable assurance of having their calls for help heard. Only through an international common standardized system can this be accomplished.

One of the essential elements in that system is the autoalarm, which you have heard about this morning. Let me briefly explain its use and purpose, because it has features similar to the device here under discussion.

The radio operator on the vessel in distress transmits on the distress frequency the alarm signal, consisting of 12 dashes. These dashes actuate relays in the autoalarm apparatus on board vessels within receiving range of the distress vessel, which in turn rings a bell. If the operator is not listening in through earphones or a loudspeaker for distress signals, he is awakened or alerted by the bell and proceeds to his radio receiver and listens in, because he knows that a distress call is about to follow. That is the prescribed international regulation.

The criteria and the specifications for that autoalarm have been very carefully drawn, first by international agreement. For example, the exact duration of each dash, the duration of the interval between two consecutive dashes, and the degree of interference which can be tolerated, are elements in the criteria which must be agreed upon internationally before a satisfactory device can be designed. In addition, international rules to assure the proper transmission of the alarm signal consistent with that criteria must be provided.

All of this has been done in the case of the autoalarm. Within the framework of those international criteria the Commission has taken steps to require autoalarms to be as mechanically perfect as the state

of the radio art will permit and consistent with the international criteria, and I would like to add there, because it was referred to a few minutes ago, that I think that the autoalarms aboard United States ships are the most efficient in the world.

I could go on for hours, Mr. Chairman, but let me get directly to the apparatus specified in H. R. 4090.

Drawing on my experience and knowledge, I cannot help but conclude that it is unnecessary and premature.

First, there is no criteria provided for duration of dots and dashes and spaces between, an absolute necessity if there is to be any assurance of reliability. None of these features has been discussed on the international level. There is no uniformity even among radio operators in the way they send dashes and dots.

Second, I believe you will find that it is the usual and certainly good policy, as far as I am concerned, to resort to statutory compulsion only after there has been sufficient experience and acceptance upon which to base an intelligent evaluation and decision.

In 1937 Congress accepted and included in legislation requirements for an autoalarm conforming with international criteria which was based on years of experience. While, it is true that the experience was obtained from its use on foreign ships up to that particular time, nevertheless, this experience demonstrated the practicability of the system and the desirability of our entering into it.

A good example of waiting for experience, Mr. Chairman, is the case of radar, certainly a major safety device but not yet required by statute. Certainly in my opinion you cannot compare radar with the device which we are talking about here today.

Third, I cannot deny that there is some merit to certain features of the bill, but these features are to me more directed to convenience. As a safety device to be dignified by statute, I just cannot agree. It does not become an integrated part of the safety system.

Fourth, in my opinion there is no need to add by statute any more equipment to United States ships only. As a Government official interested in our merchant marine, I cannot in good conscience advocate this additional cost when I do not believe it is necessary.

Fifth, the present international radio safety and distress system is performing its job. If it were not, I am sure all interested parties—the shipowners and the radio operators who, through their union, are vocal in this safety problem—I respect them for their vigilance, and they are vigilant—the Coast Guard, the Maritime Board, and so forth—would have insisted on a review of the system when we were preparing for the radio conferences in 1947 and the safety of life at sea conference in 1948. No criticism of the basic system was made. We did, however, do much to strengthen it.

I should like to pick up 1 or 2 remarks which were made by the gentleman who testified ahead of me in regard to the action of the Radio Technical Commission for Marine Services. I am vice chairman of that Government-industry organization. We have repeatedly encouraged—at least I have—all segments of the marine industry including manufacturers and the radio operators through their unions to work with us on that committee and to bring in ideas, and I have yet to see any ideas brought in by this company or the radio operators which would strike at the fundamentals of our system.

It is only after we have developed or gone into problems that they have seemed to take an interest.

If they have anything at all that they feel should be brought to that organization, we will welcome them with open arms.

I should also like to comment on one other remark, and that is about the cost of the equipment proposed in this bill. I do not know what it will cost and I do not think anybody knows what it will cost, because we haven't any specifications drawn up and I do not believe you can draw up specifications until a bill becomes law. It then becomes the responsibility of the Commission to draw up the criteria. And, in drawing up that criteria, we in the Commission would expect, I am sure, to have a round-table discussion with everybody concerned, including the radio operators, Government and industry, to determine what the criteria and specifications should be. We will not go behind closed doors and do it by ourselves.

That is a long-drawn-out process. I went through it some years ago when we were drawing up the criteria and the specifications for the autoalarm.

Mr. HARRIS. Mr. Commissioner, as I understand from your earlier statement, the Commission has conducted some tests of this automatic radio device.

Commissioner WEBSTER. Yes, sir; and the results of that test are a part of the statement which was sent to you.

Mr. HARRIS. And which was included in the record.

Commissioner WEBSTER. Yes.

Mr. Chairman, there are a lot of details on the technical side of this matter to which, I, as a Commissioner, cannot devote much time. For, I am busy with a great many things. I am not apologizing, but it is just a physical impossibility. I have staff people in the room who can answer technical questions if I cannot answer them, but I would be glad to place myself at your disposal for any questions.

Mr. MACK. Commissioner Webster, I was wondering why Congress approved legislation originally for the autoalarm. Do you happen to have any reason in mind why it was approved originally?

Commissioner WEBSTER. Mr. Congressman, it is a long story, but I think I can sum it up in a few words.

Previous to 1929 the ship radio law of this country was very sketchy. It applied to only a few cargo ships and a few passenger ships. The British had been using an autoalarm for some years, and we in this country—I say "we"—those in authority at that time, and engineers, were rather skeptical of its efficiency. We went to the 1929 safety conference and there, sitting around with all other countries, we were faced with an entirely new formula from that which we had been using in this country, to impose radio equipment aboard shipping.

That involved the use of some means of alerting an operator who was not on watch. We were faced there with practically the entire world saying that it was economically impracticable to assign enough operators aboard cargo ships to maintain watches by human beings.

We, as the United States group, made a study of the autoalarm situation to see if we could agree with the rest of the world on its use.

The manufacturing companies of this country which manufacture marine equipment assured us that they could manufacture such a device; that it would be efficient, and that it would be better than

even that which the British had been using. The United States then agreed that they would use that device to cover the time that the radio operator himself, as a human being, was unable to be listening in for distress calls.

When we came back from that conference, that whole problem was throroughly explored before the committees of Congress. I appeared, as did the radio operators' union and many others, and it was all threshed out and Congress adopted it.

At that time we were able to take advantage of the fact that the international radio conferences and the safety conferences, as I said a few minutes ago, had built up criteria so that all countries knew exactly what they had to meet, which included a uniform signal and a uniform piece of equipment which would respond to that signal.

The manufacturers of this country came through with an efficient autoalarm to meet that criteria.

Mr. MACK. The autoalarm was developed originally by the British, is that correct?

Commissioner WEBSTER. I think the history will show that they first started to use it, yes.

Mr. MACK. You recommended the legislation first, and then developed the autoalarm in this country, is that it?

Commissioner WEBSTER. It was simply a question of mechanical development. The idea was well known. There was no argument about that. There was no development work except to produce a mechanical and electronic piece of equipment which would do the job. There was nothing unusual about it. There was nothing in the way of discovery or patent situations, and so forth.

Mr. MACK. There must have been some basic reason for the adoption of this legislation, and I was wondering if it might not be the fact that the shipowners would not install the equipment voluntarily if they were not required to do so by law.

Commissioner WEBSTER. I cannot answer for them very well, as to why in those days, back before 1929, they did not install equipment of this type. I have the recollection that some did, but I have to admit that major safety devices on board ship sometimes are not installed by some ships unless there is legislation.

Mr. MACK. If the new device which has been developed, the automatic selector, I believe it is called, were proved to increase safety aboard ship, would it not be necessary to have legislation passed to, shall we say, encourage the shipowners to install radio equipment on their ships?

Commissioner WEBSTER. Generally speaking, Mr. Congressman, I don't believe you have to force anyone through legislation to use something which becomes necessary. I refer to radar. The merchant marine of this country has taken to radar now, and you will find a great majority of the ships equipped with it. That is one of the greatest safety devices that you have. No one yet has proposed that that be the subject of legislation. Certainly if it is a piece of equipment of the character that I think it is, and I think everybody else does, maybe it should be looked at with a view to legislation.

Mr. HARRIS. Is it not necessary to have someone on duty at all times for radar to be effective?

Commissioner WEBSTER. Oh, yes. The officer on watch or someone whom he details must be looking at the screen whenever he uses it. That is true.

Mr. MACK. That is the reason I asked you about the auto selector or autoalarm. I was wondering about the legislation adopted originally. If you were going to employ this automatic selector, it seems it would be the correct approach to come to Congress with legislation to have it adopted.

I think you have made a very good point on radar, that the maritime and shipping business have gone into radar. I do not know much about their progress in this field. I assume they use it for navigation purposes and as an aid to them on their own ships.

I am of the opinion that the autoalarm and the automatic selector is a service which would be rendered to other ships at sea, and would not be responsible for bringing them to port sooner or would not be of any immediate service to their own ship. That is the reason in the case of the automatic selector it would fall in the category of the autoalarm rather than in the category of radar equipment.

Is it your opinion that the automatic selector would not contribute to safety if it were employed in cargo vessels?

Commissioner WEBSTER. I should like to say 1 or 2 words before I come to the direct answer.

Safety is a relative matter. You could legislate, or at least you could consider legislating, putting a fire extinguisher in every room in every house in this country. I do not think anybody would seriously suggest that. Yet that contributes to safety.

There are a lot of things which contribute to safety. I was brought up in the Coast Guard to consider safety matters. Hundreds and hundreds and hundreds of devices were submitted to us for examination, and they all contributed to safety. If you legislated every one of those pieces because it contributed to safety, you would load down the ship and you would not have any place for cargo or for passengers. It is a relative matter.

I cannot deny that this would contribute something to safety. My point is that it is not necessary because you already have a system, and it is not necessary to superimpose this on a system which has been provided and which has been provided now by treaty and by law. I think that the weight is on the convenience side more than it is on the safety side.

Mr. MACK. I realize that you have had extensive experience in this field and certainly I value your opinion on it. No one is more aware of the relativity of safety than I am because of my experience in the aviation field. I believe it to be a very important item.

We are all interested in safety in the air and we are all interested in safety on the surface.

I wanted to ask you if you did not think that the automatic selector device which has been described here this morning would contribute more than the automatic alarm.

Commissioner WEBSTER. In my own judgment, no.

Mr. MACK. In other words, you think that the automatic alarm contributes as much to the safety of seagoing vessels as the automatic selector, and nothing would be gained by making it mandatory to employ the use of the automatic selector. Do I understand you correctly?

Commissioner WEBSTER. I do not think there would be enough gained to dignify it by requiring it by statute. It seems to me that when you legislate something, you have then placed somewhat a burden on the Government to do more than just require it. From

that point on there is a regulatory process and a supervisory process and a policing process. I feel, for instance, that the Commission will have quite a burden on itself in this particular case because there is no criteria internationally. The Commission will have to build up some criteria which may or may not fit.

If it ever got on the international level, there would be a terrific argument. I went through a lot of arguments on the autoalarm, and I know exactly what the radio operators will come in and argue for in the way of exactness, and so forth, and I do not blame them. I think they are correct. By statute you have gotten the Government into something; whereas if it was voluntarily used and it was practical and the shipowner found that it was necessary to his work, I think you would have just as good results on a voluntary basis, if it is necessary.

My whole point is that it is not necessary.

Mr. MACK. I know nothing about the tests of the equipment or whether it will work or will not work. I am assuming that the equipment will work in the way that the gentleman who testified this morning said it would. In that case I do not know that it would be necessary for the Commission to control the length of the dots and dashes which are sent over wireless. I am assuming that it could pick up a certain band and a certain speed, and when those signals came through it would automatically ring the alarm.

As I say, I have not examined the report of your tests to see whether the equipment would work. I am assuming that it would work; and if it would work, I cannot see that it would be a lot more difficult to control the operation of that operation than the autoalarm operation.

I did want to ask this question: Am I correct in assuming that when a cargo vessel has only one operator, it may go as long as 16 hours without ever answering a call while it is under way?

Commissioner WEBSTER. You mean answering a call from another ship or from a coast station calling it for some purpose?

Mr. MACK. Yes, without maintaining any kind of radio watch. For a continuous period of 16 hours.

Commissioner WEBSTER. That is true. Under the rules and the act, it is required that the vessel must maintain at least 8 hours' watch by the human operator. They can spread that watch over the 24 hours in any way they wish. The remainder of the time, which adds up to 16 hours, as you have said, is then covered by the autoalarm, and that covers the distress feature.

We are talking about safety. That is the distress feature. If there is any distress anywhere, the autoalarm will take care of that.

You asked me about whether or not they would be in a position to receive calls. In order to receive the traffic intended for their ships, it is the usual practice of radio operators to set up their watches in such a way as to enable them to listen for calls from coast stations with which they normally communicate. While they usually work that out for themselves, it is not customary to let 16 consecutive hours go by without putting themselves in a position to receive calls.

Mr. MACK. I was going to say that would be a long time if someone was trying to call the ship for 16 hours straight and had to wait that long. I know in the aviation field if you cannot contact another station in an hour, you begin getting worried about it.

Mr. Commissioner, I personally am very much impressed with this automatic selector, and the reason I am is because of its ability to

answer the call letters of the ship. That is very important. In my opinion, it is an indication that we are making progress, going forward; that we are progressing in radio and radar developments. I am extremely impressed by the ability of this machine to pick up the call letters of a ship or receive other signals without an operator on duty.

As I say, I do not know about the tests, whether it will or will not do the job. If it will do the job, I personally feel that we should all interest ourselves in this matter, and if it is necessary, we should have legislation to make it mandatory for cargo vessels to carry the equipment.

I think it is certainly worthy of our consideration here.

Commissioner WEBSTER. Mr. Congressman, I would like to state that in my opinion that feature, to call the ship through its call letters, is not strictly a safety matter. It contributes to safety. Anything contributes to safety. But that is a convenience matter and is not, in my opinion, a proper subject for legislation. You and I may differ on that, but that is my opinion.

In aviation, if I might add to that, I do not think you will find any statutory requirements as to what a plane must carry. I think that is governed by CAA or CAB, or something like that, but I do not think you will find it spelled out as we have it spelled out on the marine side.

The reason is to allow ships to travel all over this world and meet the same system. You do not have that on the aviation side.

Mr. MACK. Mr. Commissioner, I agree with you substantially, except that I am sure that if the Congress felt there was some equipment that we should have in the airplanes of our country, not required by the Civil Aeronautics Administration, we would consider adopting such legislation and encourage putting the equipment in the planes.

In reading over your statement I am very much impressed with the various safety features of this machine. I was somewhat surprised to hear you say that you thought it was very little improvement over the automatic call or alarm.

Commissioner WEBSTER. I might add that I do not know how these manufacturers have determined the length of the dashes for the safety signal TTT. There is no determination as to the length of those dashes. Every operator for himself decides how long a dash is. They are all dashes. When you come to actuating a piece of equipment, it makes a great deal of difference.

Mr. MACK. I am assuming that this equipment will perform as represented this morning. Mr. Chairman, I regret that I have consumed so much time.

Mr. HARRIS. That is all right.

Mr. Commissioner, the bells have run calling for a quorum in the House, and it will be necessary for us to suspend. I understand several of the members have some further questions which they would like to direct to you. Consequently, we shall probably have to have another day on this at a time when you can come back. I assume that will have to be arranged at a later time.

Commissioner WEBSTER. I am sorry to have to put you in this position.

Mr. HARRIS. Not at all. You did not do it. The bells have rung, and we are going to have to go. Furthermore, if you catch your train at 1 o'clock, you will have to leave now.

Commissioner WEBSTER. I told them to get my reservation on the 1 o'clock train, so I shall try to make that.

Mr. HARRIS. We will let you know when we can have another meeting.

Commissioner WEBSTER. Thank you very much. I am at your disposal at any time.

Mr. HARRIS. We shall try to arrange it at your convenience as well as the convenience of the committee.

The next witness is one of our colleagues, Congressman Pelly. We will be glad to hear you at this time, Mr. Pelly.

STATEMENT OF HON. THOMAS M. PELLY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. PELLY. Mr. Chairman and members of the Interstate and Foreign Commerce Committee, I appreciate the opportunity to testify in opposition to H. R. 4090.

The sponsors of this legislation should be commended for their worthy objective of increasing safety at sea. If that desirable motive were achieved by legislation, such as this, to require all United States cargo vessels over 1,600 gross tons to install an automatic radio call selector or carry two or more radio operators, I would not be here to register disapproval. The fact remains, however, that even if this patented selector of the Brelco Co. were found to respond to calls under all atmospheric conditions, I do not see that the result would be to improve safety procedure. But let us assume I am wrong; let us assume this device is not just an unnecessary duplication as to function of the present internationally accepted autoalarm; let us assume the provision requiring licensing of patents to other manufacturers would do away with the private and special interest factor of this legislation; let us assume the system is tested, tried, and found acceptable under all conditions—and I have grave doubts as to any of these points—I still find a strong argument against the bill. This is because I firmly believe all measures having to do with navigational messages beyond the scope of domestic waters should be by regulation under international agreement.

Mr. Chairman, those of us who have the interest and welfare of the American merchant marine at heart recognize the sad fact that the number of our ships in operation is diminishing while the foreign-flag fleets continually increase. This points up the need to withhold unnecessary impositions of added cost to our own operations, and likewise it makes it obvious that safety at sea, like safety in an automobile on the highway, is not limited to the caution of ourselves, but equally or more so, in most cases, to the caution of others. That is why I view with disfavor any but an internationally accepted system of safety communication.

So with all respect to the advocates of H. R. 4090, I urge that the members of the great Interstate and Foreign Commerce Committee in all conscience vote this bill down.

Mr. HARRIS. We appreciate your testimony, Mr. Pelly.

Mr. PELLY. Thank you, Mr. Chairman.

Mr. HARRIS. Without objection, a letter from the Association of American Ship Owners will be inserted at this point.

(The letter referred to follows:)

ASSOCIATION OF AMERICAN SHIP OWNERS,
New York 5, N. Y., March 15, 1955.

Re H. R. 4090

Hon. OREN HARRIS,
Chairman, Subcommittee on Transportation and Communications,
Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

DEAR MR. CHAIRMAN: The Association of American Ship Owners appreciates the opportunity afforded by the committee to submit its views with respect to H. R. 4090.

The association opposes this bill for a number of reasons, and we would appreciate it if you would include this letter in the record of hearings.

1. H. R. 4090 would require that all United States cargo vessels, now required to be equipped with radiotelegraph installations and autoalarms, carry, in addition, an automatic radiotelegraph call selector after the Federal Communications Commission has found that such an instrument is available. This bill corresponds generally to H. R. 5023 and H. R. 6004 of the 83d Congress, except that those bills, in their original form, would have required the immediate installation of a selector. At a hearing held by the Committee on Interstate and Foreign Commerce in May 1954, the proponents of those bills at first contended that a practicable selector did exist, and the representatives of the company which manufactured a device which purportedly complied with the bill's definition described its alleged merits to the committee at some length. However, as the hearings proceeded and reports came in from Government agencies, it developed beyond contradiction that this manufacturer's device simply did not work. H. R. 6004 of the 83d Congress was then amended to provide, as does H. R. 4090, that the proposed requirement should apply only when the Federal Communications Commission found that a selector was available.

It seems to us that it would be unreasonable in the extreme for Congress to require the installation of a device which does not yet exist in practicable form, even if the effective date of the legislation were postponed until a finding that there is such a device.

2. The situation is confused by the fact that there is on the market a device which purports to comply with the bill's definition of a selector. Thus, the bill defines an automatic radiotelegraph call selector as an instrument capable of being set manually to simultaneously receive and identify and respond to certain signals. Unquestionably the device now on the market occasionally will respond to such signals. The difficulty is, as was fully developed in last year's testimony, that it frequently does not so respond, and, moreover, frequently does respond to signals other than those specified in the bill. That is to say, it frequently gives false alarms. Presumably the bill, by its postponement of the effective date until the Federal Communications Commission makes a finding that a selector is available, recognizes that no selector is available now. Nevertheless, the existence of the device for which a claim of effectiveness is made would be embarrassing in the construction and application of the bill if it should become law.

3. Even if there were in existence a device which operated efficiently, it would not add to the safety of ships at sea. The argument made on behalf of the bill a year ago was that the efficiency of the autoalarm which cargo ships do carry is sometimes affected by a high level of atmospheric disturbance (static). However, a selector would be similarly affected by static, as observed by the letter of Secretary of Commerce Weeks to this committee dated June 1, 1954.

4. The association is opposed on what appear to be principles of sound public policy to any legislative requirement that such a device be installed on American ships, even if an efficient device were now on the market. It seems clear, as stated in section 3 of this letter, that a selector would make no contribution to the safety of shipping. To be sure, if there were such a device, it might well be of commercial utility. But the association does not believe, and it understands Congress does not believe, that legislation is appropriate with respect to devices whose usefulness is merely commercial.

Repsectfully yours,

HUGH S. WILLIAMSON,
Vice President.

Mr. HARRIS. The committee will adjourn, subject to the call of the Chair.

(Whereupon, at 12:25 p. m., the committee adjourned, subject to the call of the Chair.)

COMMUNICATIONS ACT OF 1934

(Automatic Radio Call Selectors on United States Cargo Ships)

WEDNESDAY, MAY 4, 1955

HOUSE OF REPRESENATTIVES, SUBCOMMITTEE
ON TRANSPORTATION AND COMMUNICATIONS,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met, pursuant to call, at 10:15 a. m., Hon. Oren Harris (chairman of the subcommittee) presiding.

Mr. HARRIS. The committee will come to order.

The committee is in session this morning for the purpose of further consideration of H. R. 4090, a bill proposing automatic radio call selectors on cargo ships. It will be recalled at the previous session of the committee on this particular legislation, the Commissioner from the Federal Communications Commission, Mr. Webster, was testifying and the session was interrupted by a call of the House. At that time, members of the committee indicated that they would prefer another session in order to interrogate Mr. Webster further on this matter. Consequently, this session was called this morning and we have Mr. Webster back with us.

Mr. Webster, do you have any further formal statement that you would like to make this morning, or shall we proceed with the questions where we left off before?

STATEMENT OF EDWARD M. WEBSTER, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, D. C.—Resumed

Mr. WEBSTER. Mr. Chairman, when I left on March 21, you were in the process of questioning me. I had not at that time when I left here finished completely the statement that I started to make. Therefore, with your permission, I think I can complete what I have to say within just a few minutes. It is somewhat of a summation.

Mr. HARRIS. Very well, we would be very glad to have you make your statement. I may say, Mr. Commissioner, that I have a copy of your statement here in which it is said "Additional statement". I believe you did not have a prepared statement when you here before?

Mr. WRBSTER. I did not.

Mr. HARRIS. Consequently, you were speaking to us from memoranda that you had made. We would be glad to let the entire statement that you have here be included in the record in case you do not want to read all of it.

Mr. O'HARA. Mr. Chairman, may the Commissioner's statement appear in full in the record at this point?

Mr. HARRIS. That is what I was indicating, except that he might want to read it in full. If you do, you have that permission.

Mr. WEBSTER. The first thing I would like to say is that at the top of the statement unfortunately it says "Commissioner Webster, in behalf of the Federal Communications Commission," and if you recall I made somewhat of a point that my remarks were my own remarks and not on behalf of the Commission itself. When it goes into the record, I would like to have those words left out, or any reference to it being a statement of the Commission. It is my own personal statement and approach.

Mr. HARRIS. That will be done of course, but do you mean that you are appearing on your own, individually, and that you are not representing the views of the Commission?

Mr. WEBSTER. I am representing the views of the Commission but if you will recall, after I gave the prepared statement of the Commission I asked permission to state some of my own personal views.

Mr. HARRIS. This statement this morning is your own views?

Mr. WEBSTER. This is an extension of those remarks.

Mr. HARRIS. Very well.

Mr. WEBSTER. I can represent the Commission, but I want it clear that when I do present my own personal views I would like it known.

Mr. HARRIS. Very well, we would be glad to have it in that way.

Mr. WEBSTER. It would only take me a few minutes and I think it might be well to read it.

Mr. HARRIS. You may proceed.

Mr. WEBSTER. The standards set forth in the bill, if not inadequate, leave the Commission in a very difficult position. I sincerely hope that the committee will not get the impression that all the Commission has to do is rubberstamp a piece of apparatus submitted for approval. In the first place, there are no existing criteria or accepted standards on which to evaluate the equipment such as we have in the case of the autoalarm—where we have an international standard to start with. Neither should this committee be misled by the tests made by the Commission's staff, because they were not based upon any criteria directive and have received no evaluation by the Commission. These tests become useful only when associated with tests and trials under practical operating conditions over a reasonable period of time based upon criteria and standards yet to be agreed upon. As in the case of the autoalarm, I would expect the Commission to discuss the entire problem, both engineering and operating, jointly with all interested parties—manufacturers, radio operators, ship owners, Government agencies, et cetera, in order to get coordinated agreement. That is exactly what we did in the case of the autoalarm.

Now I would like to address myself to the tests that the Commission made.

Tests of the Brelco Model 297–NR automatic radio call selector were made during the period October 20, 1954, to January 3, 1955, by engineers of the Federal Communications Commission.

I would like to interpose something here, sir. If you recall, when I left on March 21 it was suggested by someone that the Commission forward to you an analysis of those tests in what might be called more layman language, something that was a little easier to understand.

I took that word back to the Commission and the Commission had the staff prepare a letter, and the Commission approved it and I think it was sent to you. It is a much shorter report than the original and the attempt was made, as I call it, to place it into more layman's language. But there is great difficulty in doing that, because it is a technical problem and it is difficult to put it into real layman's language.

Mr. HARRIS. I received the report, Mr. Commissioner, and without objection it will be included in the record at this point or, if you prefer, following your statement.

(The statement referred to follows:)

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D. C., April 14, 1955.

Hon. OREN HARRIS,
House of Representatives, Washington, D. C.

DEAR CONGRESSMAN HARRIS: This refers to H. R. 4090, a bill which would amend the Communications Act so as to require installation of an automatic radiotelegraph call selector on certain cargo ships of the United States. On February 18, 1955, the Commission transmitted to the House Committee on Interstate and Foreign Commerce a report of tests of the Brelco automatic radio call selector.

A hearing was held on the bill on March 21, 1955, before the House Committee on Interstate and Foreign Commerce. At that time, it is understood that you informally inquired whether the above-mentioned report might be reduced to less technical language in order to facilitate understanding of the report.

A report, the language and form of which is considered to be less technical than the first report, is transmitted herewith. It is suggested also that consultation with one or more members of the Commission's staff concerning this report may be helpful. Should you wish to do this, it is assumed that you will not hesitate to so inform the Commission.

By direction of the Commission:

GEORGE C. MCCONNAUGHEY,
Chairman.

NONTECHNICAL LANGUAGE VERSION OF REPORT OF THE COMMISSION OF ITS TESTS OF THE BRELCO AUTOMATIC RADIO CALL SELECTOR

Certain tests of the Brelco Model 297–NR Automatic Radio Call Selector were made during the period October 20, 1954, to January 3, 1955, by engineers of the Federal Communications Commission.

1. What was the purpose of these tests?

To obtain information as to whether the Brelco call selector would meet technical requirements such as set forth in H. R. 4090 for an automatic radiotelegraph call selector on a ship of the United States subject to the provisions of part II of title III of the Communications Act.

2. What was the nature of the tests that were made?

The tests were made only at the Commission's laboratory located at Laurel, Md. Generally speaking, two basic and related tests were made. The first test concerned the capability of the call selector to be "set manually to simultaneously receive and identify and respond to" the five types of international Morse code signals set forth in section 3 of H. R. 4090 (see lines 16 through 24 on p. 4 thereof). The second test concerned the capability of the call selector to "sound an alarm if, but only if, any of the above five signals are received" as prescribed in section 3 of H. R. 4090 (see lines 8 and 9 on p. 5 thereof).

The Brelco call selector consists of two basic components: (1) a radio receiver and (2) a call selector and alarm actuating mechanism.

In the first test, the dash [1] and space [1] controls appearing physically on the front panel of the call selector unit were manually set for best reception of and response to the prescribed signals when the latter were generated locally in the laboratory and transmitted automatically and as near perfectly as possible (with no interference from unwanted signals or static present) at (1) a speed of 12 words per minute and (2) at a speed of 20 words per minute. After testing at 12 and 20

[1] Reference is made here to "dashes" and "spaces" as these terms are applied to the international Morse code used in marine radiotelegraphy.

words per minute, and without changing the respective settings of the dash and space controls, the actual speed of transmission in words per minute was varied above and below these particular speeds in order to determine in each case at what lower speed and at what higher speed the call selector ceased to function.

In the second test, an actual antenna typical of an average ship antenna was connected to the receiver of the Brelco call selector so that from time to time actual signals from ship and coast radio stations along the Atlantic seaboard were intercepted at random while periodic transmissions of the prescribed (desired) signals were made locally and automatically [2] in the laboratory according to a predetermined time schedule by use of a low-power transmitter known as a signal generator at appropriate signal strength and at a constant speed of 12 words per minute.

3. Why were the speeds of 12 words per minute and 20 words per minute used?

Neither H. R. 4090 nor any preceding related bill specified at what speed the prescribed signals were to be transmitted; hence, it was necessary to exercise judgment in selecting this element. By treaty, "the speed of telegraph transmission in cases of distress, urgency or safety must not *in general* exceed 16 words per minute," but no lower limit is designated. [Italics supplied.] The rules of the Commission, however, state that the distress message shall be transmitted at a speed not less than 8 words per minute. Hence, the choice of 12 words per minute as an average between 8 and 16 words per minute. The other speed of 20 words per minute was chosen as most representative of the typical speed used by experienced ship radio-telegraph operators when calling other stations and when transmitting the usual type of signals and messages.

4. What other choices of operational elements was it necessary to make in conducting the tests?

During every instance of reception of radiotelegraph signals, one or more of the following factors are present to some extent and these unavoidably affect the success or effectiveness of reception of the desired signals:

(*a*) The strength of the desired signals;

(*b*) The strength and character of the undesired radio noise or static (background noise as observed, for example, in listening to distant broadcast stations);

(*c*) The instant sensitivity of the radio receiver (represented by the minimum strength of desired signal which, in the absence of any interfering signal, will actuate the radio receiver to achieve the objective sought).

Additionally, during some instances (occurrence unpredictable) of reception of radiotelegraph signals, the following factor is present, and this may [3] affect the success or effectiveness of reception of the desired signals.

(*d*) Undesired signal or signals.

In consequence, it was necessary to select for test purposes, a particular and appropriate strength of desired signal (expressed in microvolts) and a particular and appropriate setting of the receiver sensitivity control (expressed in microvolts), since neither H. R. 4090 nor any preceding related bill specified these values in any way. In choosing the values used, the Commission engineers were guided to some extent by values already prescribed in connection with testing types of autoalarms for approval by the Commission pursuant to existing law and international agreement.

Also, it was necessary to arbitrarily select certain ship station call signs to use in the test. It was thought that those selected (KEEE and WJJJ) presented certain extreme characteristics with respect to difficulty in correct reception through interfering signals and/or static.

5. Why was it considered appropriate to test the Brelco call selector with an actual antenna connected to it?

Because this condition is more representative of practical operation. Without the use of an antenna, interfering radio noise (static, etc.) and interfering signals would not be intercepted and their effect would not be evidenced.

6. What is the uncontrollable effect of interfering noise and/or signals?

They cause, in effect, (1) the desired signals to appear in the radio receiver of the call selector in a form different from their true form as transmitted so that the desired signals fail to actuate the selector unit or (2) a desired signal to be formed and appear in the radio receiver (even though it has not been transmitted as such) which actuates the selector unit and causes a false response.

[2] These tests were made with automatically transmitted signals because the variation of "style" or manner of manipulating a hand telegraph key by individual radiotelegraph operators introduces a variable factor (duration and spacing of dots and dashes) which cannot be readily standardized. It may be desirable to have comprehensive tests made with manual instead of automatic transmission.

[3] Depending upon its strength, form, and duration.

7. Specifically what were the results of the first kind of test described in the answer to question No. 2?

(*a*) The apparent best manual setting of the dash control and the space control (for the same speed of transmissoin in words per minute) was not the same for reception of all of the five different types of signals as prescribed by H. R. 4090. (See FCC Test Report, p. 5, table IV.)

(*b*) For a given setting of the dash controls and space controls to assure proper functioning of the call selector at a given speed of transmission in words per minute, the speeds of transmission above and below the selected value within which the selector unit would operate were in general different for each of the five prescribed types of signals. Further, the lower and upper limiting speeds varied with room temperature and with the voltage of the electric power source. (See FCC Test Report, pp. 3–4, tables I, II, and III.) If the speed of transmission of the signals is not within these limits, the call selector will not function.

8. Specifically what were the results of the second kind of test described in the answer to question No. 2?

(*a*) The percent true response (response to actual signals transmitted) to signals of the types specified by H. R. 4090, using certain test values necessarily selected by the Commission's engineers in the absence of any specification thereof varied as follows:

On the international calling and distress frequency 500 kilocycles; from the lowest figure of 46 percent (urgency signal) to the highest figure of 92.5 percent (ship call WJJJ).

On the lifeboat frequency 8,260 kilocycles (since changed by treaty to 8,364 kilocycles); from the lowest figure of 53.7 percent (urgency signal) to the highest figure of 100 percent (safety signal). (See FCC Test Report, p. 6, table at bottom of page, also summary observations on p. 7.)

(*b*) There were a number of false responses which indicated that a ship call sign (KEEE), a safety signal, or a distress signal had been received when, in fact, such a signal had not been transmitted. In 646 hours of operation, there were a total of 72 false responses. (See FCC Test Report, p. 9.) Again it is pointed out that these occurred when using certain test values necessarily selected by the Commission's engineers in the absence of any specification thereof.

Mr. WEBSTER. Now, after the Commission's letter was sent I made an attempt for my own benefit to boil the problem down to its essential points with some comments of my own, attempting to get it down to a two-page paper, and I thought maybe that might be useful to you gentlemen, so I have it here before you. It is my attempt to shorten into 2 pages some comments on 7 of what I thought were the essential points of those tests. It had been my idea that you would simply put this in the record, but if you would like to discuss these points, I would be glad to continue and read them because you might wish to discuss them.

Mr. HARRIS. Mr. Commissioner, in view of the technicality involved in this type of electronic operation, perhaps it would be advisable to explain by reading your statement.

Mr. WEBSTER. All right, sir.

Now, a preface to the comments on the tests themselves; I would like to say this, that in the absence of established criteria governing the performance of such devices either on the domestic or international level, certain specifications, based on engineering judgment and operating experience of those Commission engineers involved in the tests, were chosen for the purpose of this test. The specifications used in these tests may or may not be representative of the criteria ultimately to be determined appropriate for the operation of an automatic radio call selector in the event of adoption of H. R. 4090.

I personally did not participate in those tests. I have several engineers from the Commission in the room. If we should get into a detailed discussion of technicalities, I might like to call on them to give answers.

The following is a summary of the results of the tests, together with comments reflecting my own opinions.

1. The settings of the controls required for optimum response to each of the five different test signals prescribed by H. R. 4090 were not the same for each signal.

That was a finding. My comment is this:

Comment: The results of this test indicate that there is a lack of uniformity between the selector units which would tend to make the adjustment of the equipment for optimum performance by the ship's radio operator more difficult. This lack of uniformity points up the need for precise criteria, yet to be determined, covering the design and performance of such devices.

2. For any given setting of the controls, the speeds of transmission, above and below the selected value, within which operation of the selector unit occurred, were, in general, different for each of the five prescribed signals.

Comment: This test shows that with any particular setting of the controls the speed of transmission to which the device will respond is limited, and is also different for the various signals. Since the ships transmitting the signals to which the device would be expected to respond are manned by operators, each of whom has a distinctive and characteristic manner of sending, it is evident that precise standards for the various signals, similar to the specifications now in force for the autoalarm signal, would be necessary. This is a matter of international concern if the installation of call selectors on American ships is to be of any aid to a foreign ship in distress.

3. The upper and lower limiting speeds of transmitted signals at which the selector units would respond varied with room temperature.

Comment: Radio room temperatures are not easily controlled since they are affected by the location of the radio room on the vessel and also by the zone in which the vessel is operated. Since the performance of the call selector is affected by the ambient temperature it is apparent that thought would have to be given to the formulation of suitable standards which would assure satisfactory performance of the call selectors throughout the range of ambient temperatures which might be encountered on various classes of ships operating throughout the world.

4. The upper and lower limiting speeds of transmitted signals at which the selector units would respond varied with the voltage of the power source.

Comment: The power supply on board ship usually is not regulated with the preciseness that obtains in shore-based installations, thus necessitating appropriate standards which would insure the proper functioning of the selector over the voltage limits which would be encountered on board ship.

5. The percentage of true responses on 500 kilocycles for the various prescribed signals ranged from 46 percent (urgency signal) to 92.5 percent (call WJJJ).

Comment: These data show that the effectiveness of the device is greatly influenced by the presence of interfering signals or atmospheric noise. During daylight hours when the atmospheric noise level on 500 kc is generally lower than during the night hours, the percentage of responses was higher. It is apparent that the response depends to a degree upon the composition of the signal, that is the make-up

of the signal in terms of dots and dashes. The signals in which the dash characters predominate such as in the signal WJJJ tend to give a higher percentage response during interference.

6. The percentage of true response on 8280 kc for the various signals ranged from 53.7 percent (urgency signal) to 100 percent (safety signal).

Comment: The overall response on 8280 kc was generally higher which can be attributed to the fact that both the atmospheric noise level and interference level are generally lower than on 500 kc.

7. In 646 hours of operation there was a total of 72 false responses, an average of approximately 1 false response every 9 hours.

Comment: The number of false responses, an average of 1 every 9 hours of operation, indicate that the device does not have in my opinion the reliability which is to be expected of a safety device.

Additional comment: It should be noted that the device lacks certain self-policing alarm features which are required to be and are incorporated in the autoalarm. The autoalarm is so designed that it gives an audible warning upon the failure of certain components or upon a power failure.

Thank you. That completes my statement.

Mr. HARRIS. Thank you very much, Commissioner.

Mr. Mack, do you have any questions?

Mr. MACK. Yes, Mr. Chairman.

Mr. Commissioner, you said in your statement that you would expect the Commission to discuss the entire problem, both engineering and operating, with interested parties. I wondered when that would be possible. Do you anticipate doing that as you suggested in your statement?

Mr. WEBSTER. Possibly I did not make that clear. I meant if and when the bill becomes law the Commission is then faced with implementing and carrying out the law. I would expect the Commission, as they did in the case of the autoalarm, when the law was passed providing for that piece of equipment, that the Commission would then prepare a set of draft specifications or criteria. It would then be placed before all of these interested parties, we would get around the table and thrash out these criteria and standards and arrive at, I hope, an agreement among everybody on those standards and criteria. Now, of course, we have a procedure prescribed by law—that is, we build up these criteria and standards and we put them out for rulemaking. That is probably the legal way in which it would be handled, but what you are really doing is that the interested parties get around the table with us, thrash out the standards and criteria and attempt to arrive at an understanding. Now, that was done in the case of autoalarm and we spent many months around the table with the manufacturers, radio operators, shipowners, and Government agencies. There was a lot of heated discussion as to what those standards would be because there were certain interests that felt that they should be very, very severe. I did too. And the more severe you make the standards the more heated discussion you get, and that is what I would expect to happen if and when this bill becomes law.

Mr. MACK. Of course, you would have considerable difficulty getting all of the interested parties, as you say, to agree on certain criteria.

You would become involved in some very heated discussions, I would think.

Mr. WEBSTER. Well, we have that pretty much every day down at the Commission, sir. We put out proposed rules for rule making followed in many cases by public hearings. I have seen some of those public hearings become quite heated. I say heated, they are very positive in their feelings in regard to what we should or should not do.

Mr. MACK. You mean even as heated as some congressional hearings?

Mr. WEBSTER. Why, I should think so.

Mr. MACK. I listened attentively to your suggestions in regard to this selector and it appears that the principal objection is the question of interference in picking up the signal. For instance, the setting of the controls required for the optimum response. Is it not possible to preset the unit so that it would pick up responses in a certain area?

Mr. WEBSTER. My comment here is directed to the fact that there are 3 or 4 controls that an operator has to set, one for each one of the signals and it imposes just that much more sensitivity on him of having to adjust his equipment. I would like to make one thing plain because your question brings the matter right to the fore and that is that I am not objecting to a piece of apparatus such as is described here. My comments on the tests are that this particular piece of apparatus does not in my opinion meet the final criteria and standards that the Commission would have to set up. Now, it is quite possible that they can produce a piece of equipment that will do the things that will be required under a set of standards and criteria that the Commission would set up. I am not saying that they cannot do it, I say that this particular piece of equipment has its faults. Now, if they can rectify that and come up and meet the standards that the Commission will ultimately set, I have no objection to a piece of apparatus at all; that is, the apparatus side of it.

While your question does not necessarily raise it, my other point was, and I made that in my other statement, that I did not believe it was necessary by statute to require this piece of apparatus.

Mr. MACK. Well, I am not an engineer, but I distinctly remember that formerly they used to have the radio operators in control towers, adjust the frequency band, or do their own tuning, and I assume that this selector has a similar function to be performed by the operator. Sometime toward the end of the war they preset the receivers in the radio control towers, and it seems to me that it is possible to preset the transmitter or the receiver, as the case may be.

Mr. WEBSTER. Well, for a piece of safety equipment I think we must look forward to having it so positive that this does not require, if possible, any control by the operator, any fine adjustments.

Mr. MACK. Presetting would be preferable?

Mr. WEBSTER. Yes, sir; and that is done in the case of the auto-alarm.

Mr. MACK. I know it was objectionable when it was first introduced in radio control. After it was introduced and put in use, it was found to be entirely satisfactory, in fact it was preferable to the manually operated.

Mr. WEBSTER. You see, on board ship you have this condition, the one operator. The equipment, when he is not there, has to operate

as near 100 percent perfect as you can possibly get it, because, in the first place, you want it to operate when the signal comes through. In the second place, you do not want to have a lot of false signals coming through and waking him up every 5 minutes. The record here shows that in this particular case under the conditions under which this was tested, and they were very favorable conditions, they were not out at sea, but you had a false alarm every 9 hours on the average.

Mr. MACK. In continuous operation?

Mr. WEBSTER. Yes, sir; that is too high. The autoalarm is much better than that, I am sure.

Mr. MACK. Of course, as I understand this apparatus, it would not be in continuous operation, it would be in operation strictly as an emergency measure?

Mr. WEBSTER. Not as I interpret this bill. It has to be in operation when the operator is not on watch, which means generally speaking, he is on watch 8 hours a day and the rest of the time it is covered by the machine.

Mr. MACK. But it would depend on the signals being sent at the time, the emergency signals are not sent continuously?

Mr. WEBSTER. That is right. Well, the apparatus is turned on, in layman's language, is turned on and is in operating condition ready to receive one of these signals.

Mr. MACK. But just emergency signals?

Mr. WEBSTER. Any one of these four signals.

Mr. MACK. Also in your No. 2 objection you have complained there about the area where this selector should pick up your signals, or the difficulty of the machine in picking up your emergency signals. Regarding transmissions, are they not standard for radio operators within a certain area? Is the speed of transmissions between a certain area like 10 to 15 words a minute by most operators sending the messages while ships are underway?

Mr. WEBSTER. No, sir; the speeds vary. There are some operators that send slowly, some fast. That is the problem that we would be faced with with a standardization of the length of dots and the length of dashes, because the dot has a length too in time.

Mr. MACK. Yes. But generally they would be proportional to the speed.

Mr. WEBSTER. Yes, sir. The timing is the secret of the whole thing. There are relays or other pieces or components in that piece of apparatus that actuate on a timing basis and your dash is a certain number of seconds, or parts of a second, and it is that feature which does the operating and the spacing between the dots and between the dashes. There is a timing problem. Now, there are certain latitudes that you give when you are building up the criteria and your standard that you have to keep within. In the case of autoalarm there is an international requirement on the number of dashes and the length of those dashes and the space in between. We have never had an international standard on the sending of the international code characters and I just do not know what would happen on the international level if this were attempted.

Mr. MACK. Do you have a standard limitation for emergencies?

Mr. WEBSTER. No, sir.

Mr. MACK. As I recall, the emergency signals were not to be sent over 16 words a minute.

Mr. WEBSTER. I have a recollection that there is. If you want the exact detail, I will ask one of my own people.

Mr. MACK. I think it would be advisable to have it.

Mr. HARRIS. Would you identify yourself for the record, please?

STATEMENT OF WILLIAM N. KREBS, CHIEF, MARINE DIVISION, FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, D. C.

Mr. HARRIS. Do you have the answer to the question?

Mr. KREBS. I am sorry, sir, I did not get the question. I was reading a paper.

Mr. MACK. My question was, is there a limitation on the speed of an emergency signal. I was of the impression that the maximum speed was 16 words a minute for an emergency signal.

Mr. KREBS. The international radio regulations prescribe that distress signals in general shall be transmitted at a speed not exceeding 16 words per minute. They do not specify any lower limit. The Commission in its own rules does specify a lower limit of 8 words per minute.

Mr. MACK. That is substantially the area of this selector device.

Mr. WEBSTER. I do not believe there are any limits on the other signals we are talking about, that is only the distress signal, the S O S.

Mr. MACK. That is exactly what I had in mind, the emergency or distress signal. There was a limitation on it. The radio selector, I understand, does operate in that general area?

Mr. KREBS. Yes, sir.

Mr. MACK. This interference that you mentioned, Mr. Commissioner, is nothing new in radio transmissions. I think that is the same thing that causes transmissions to be interrupted, normal transmissions to be interrupted, during certain hours of the day by interference from other areas?

Mr. WEBSTER. You are absolutely right, sir, and that is one of the major points in building up a criteria or standard for any piece of apparatus. It is the atmospherics and the interference that you are going to get; that was one of the biggest discussions that we had at the time we built up criteria for the autoalarm. How strict are you going to be under conditions of severe interference? That was the big criticism that some had of the autoalarm; the fear that it would be actuated by atomospherics and interference so much that it was going to keep the operator awake all the time.

Mr. MACK. Has it been actuated from interference on many occasions?

Mr. WEBSTER. I am sure it has; yes, sir. I was going to say that you could not probably build a piece of apparatus to operate 100 percent through interference. You are bound to get some false alarms because of that.

Mr. MACK. You have no record of the times that the autoalarm had been triggered off by interference?

Mr. WEBSTER. No statistical reference. We have a pretty good record of performance of the autoalarm as part of the system—that is, that it has performed its function, maybe not in each individual

case. There may have been individual cases of not being actuated during a distress case, but as a part of the system, it has worked all right.

Mr. MACK. Have you had any complaints from the shipowners or radio operators from being disturbed too often by the autoalarm being accidentally triggered off?

Mr. WEBSTER. I think most of the complaints that we have had have come from radio operators because they have from time to time felt that the autoalarm was not a substitute, a good substitute, for the radio operator. They claim the job can be done better through human ears, and secondly, that they experience false alarms and they were awakened and brought to the radio room when there was no need for it.

Mr. MACK. Do you expect a machine of this nature to be perfect before it is employed? Is it necessary to have 100 percent response before the Commission would say it was satisfactory? It is difficult to attain perfection in any type of mechanical device, but there must be some area where safety is involved that you could set it for 90 percent efficiency, or something like that?

Mr. WEBSTER. With the present state of the electronic art, I see no reason why we should not strive for 100 percent. The autoalarm is now up to—I do not know what percentage to use, but I am sure it is 90 to 95 percent or up in that area of perfection and operation.

Mr. KREBS. That is right.

Mr. WEBSTER. I see no reason why this piece of equipment cannot be engineered to do the things that are claimed. All I am pointing out is that at the present moment there is no criteria or standard and I am, what might be called, putting everybody on notice that that criteria has yet to be established, and it will have to go through quite a process before we get to that standard. I do not want anybody to be fooled by it tomorrow morning, if the bill should pass, and come down to us and say, "You did not say anything against it. Therefore, why do you not approve it tomorrow morning. We want to go on to work." I want everyone to understand that we have a processing to go through, there are imperfections in the present piece of equipment handed to us and I am not saying that that cannot be perfected. But I think they have a long way to go yet, because they have to sit down with us, along with these other people, and we have to arrive at a standard and criteria.

Mr. MACK. I am not too familiar with the tests that you conducted on the equipment. I was led to believe that it was operating satisfactorily, although like any mechanical device, it would not be 100 percent perfect on all occasions.

Mr. Chairman, I have a few other questions. I hesitate to hold the floor so long. I wonder if I could yield the floor now and perhaps you would recognize me later on?

Mr. HARRIS. We have two witnesses, with statements that have been submitted, that would like to appear. Is Mr. Baker present?

Mr. PHILLIPS. Mr. Baker is in New York, sir. No, he is not present and it looks like I am going to be giving the position of the institute.

Mr. HARRIS. What is your name?

Mr. PHILLIPS. Edward C. Phillips.

Mr. HARRIS. Is Mr. Ralph Dewey present?

Mr. PHILLIPS. No, sir.

Mr. HARRIS. Is Mr. Dewey in Washington?

Mr. PHILLIPS. Yes, sir; he is the Washington representative of the Pacific American Steamship Association.

Mr. HARRIS. Can you be here on Friday?

Mr. PHILLIPS. Yes, sir.

Mr. HARRIS. Do you think Mr. Dewey can be here on Friday?

Mr. PHILLIPS. I expect he can, sir.

Mr. HARRIS. Do you know of any other witnesses who wish to appear?

Mr. PHILLIPS. Sir, we wanted to bring a representative of one of the steamship companies down, in connection with a letter which is in the record, to make him available for questioning. We wanted to have enough advance notice so we could get a steamship representative down here for that purpose.

Mr. HARRIS. Can you have him down here for Friday morning?

Mr. PHILLIPS. Yes, I can say that we will, yes.

Mr. HARRIS. Very well.

Mr. Hinshaw, do you have any questions?

Mr. HINSHAW. No.

Mr. HARRIS. Mr. O'Hara?

Mr. O'HARA. Thank you, Mr. Chairman.

Mr. Webster, it has been, I guess, over 2 months since you previously testified and I am frank to say that I have had so many other things on my mind since then that I am a little hesitant to go over some of your testimony. I notice in the hearings which were held last year on a similar bill that from the record it appeared that from the original invention which was used by the Moore-McCormick Lines, a letter from Mr. L. B. Victor, manager of the radio department of that company, had indicated their personal experience with the original equipment which had been installed. I am reading from page 43 of that record which states:

> During 1949 it was found that about 50 percent of the call alarms on the Moore-McCormick vessels were inoperative due to mechanical failure. The main cause of mechanical failure was remedied by substituting parts made to our specifications. This action improved the mechanical reliability of the equipment, but it was found that interference from other radio transmissions or noises from static frequently disrupted the sequence of the dots and dashes set up on the selector, and prevented it from performing its function.

Would you indicate whether or not under the tests which were conducted by the Commission that that, again, was one of the difficulties which you had with the proposed new equipment and which affected its reliability?

Mr. WEBSTER. Yes, sir; from the point of view of the interference he speaks of, if I remember correctly, he spoke of the atmospherics and interference. We found the same general situation in these tests. The other point in regard to ruggedness, what I call ruggedness of parts that he had to substitute, and so forth, that is a problem that I think a manufacturer or engineer can remedy. But the interference problem, we found the same thing here.

Again, let me repeat, I am not saying these cannot be rectified. I am saying this is what we found under these tests and if they proceed with it under a law, I see no reason why a manufacturer cannot produce something, but I want him to know that when he comes up to get an approval from the Commission that he has to go through this pro-

cedure of building up a criteria that will be acceptable to the Commission and it is not set forth in this bill, obviously.

Mr. O'HARA. There is no reason in the world that I can see, and I do not know whether you can see why we should legislate a piece of equipment into a favored position, as I think this legislation will do, which has a record such as you have found from the tests you have made. Is that not true, Mr. Webster? Is it not a different thing to experiment with a piece of equipment and legislating that it be required upon vessels, certain American vessels, either that, or have operators on full time? Is that not the net result of this legislation?

Mr. WEBSTER. I think I made a statement along that line in my original presentation in March. My feeling was, and still is, that I see no reason for legislation to introduce another piece of equipment into the system. We have a system that works, it is satisfactory, it is a worldwide system agreed to by all countries. Of course, I take no position that should be interpreted at all that I am against new developments, new uses of radio. I think I am an outstanding proponent of the development of the radio art in all fields, not only in marine, but in all fields, and if a piece of equipment that can operate properly can be produced and the shipowner finds that it is needed and is satisfactory, he will put it aboard voluntarily. I just do not see any reason for placing it aboard through a statute. There are so many things that can be placed aboard a ship that people could argue about should be put aboard by statute, and I just do not feel it is necessary to do it this way.

Mr. O'HARA. I think that is all, Mr. Chairman.

Mr. HARRIS. The present established and recognized method adopted and installed by legislative mandate is the autoalarm system?

Mr. WEBSTER. Yes, sir.

Mr. HARRIS. That is required by legislation?

Mr. WEBSTER. It has been in the law since 1937, in our own law and, as I said a little while ago, we went through quite a procedure to approve it. I do not want to be misunderstood, gentlemen, that either I or the Commission are opposed to the development and more use by ships of radio. I think everybody knows the Commission and myself to know that we have spearheaded the development of radio. That is one of our jobs and the Communications Act directs that we must encourage the development and use of radio. My point is that we do not feel it is necessary by legislation.

Mr. HARRIS. Mr. Dolliver?

Mr. DOLLIVER. That leads me to make this inquiry, your last statement. Actually, there has been no steamship line which has installed this equipment voluntarily on the basis of its merit, is that not true?

Mr. WEBSTER. I am not too familiar with the details on that because we in the Commission do not necessarily know.

Mr. DOLLIVER. As far as you know, no such installation has been carried out?

Mr. WEBSTER. There have been some. I think some were mentioned just a minute ago by Mr. O'Hara. One of the steamship lines.

Mr. DOLLIVER. That was on an experimental basis?

Mr. O'HARA. That was the original piece of equipment, not the one that is in this bill. It was the Moore-McCormack Lines.

Mr. DOLLIVER. Well, so far as you know, there has been no general installation of this equipment?

Mr. WEBSTER. That is correct.

Mr. DOLLIVER. On the basis of the equipment's merit by a considerable number of steamship lines?

Mr. WEBSTER. I think they have doubted the reliability of it.

Mr. DOLLIVER. They have doubted the reliability and, if I understand your testimony and the comments you have made, by means that have been revealed here in your statement, it would indicate a lack of reliability is still existent in this equipment, is that not true?

Mr. WEBSTER. I think so, yes, sir. In saying that, I still do not want to be misinterpreted in making that remark. I think that possibly the engineers can build a piece of equipment that would be practical.

Mr. DOLLIVER. In other words, this is in the developmental stage and is not ready for general installation. Would that be your view?

Mr. WEBSTER. That would be my view.

Mr. DOLLIVER. You feel that probably in the course of the months or years ahead, why, maybe this can be perfected to the point where installation would come, either voluntarily, or perhaps if it was deemed necessary, by legislation?

Mr. WEBSTER. Yes, sir, and if you will recall, some witness on the March 21 hearing here, I have forgotten who it was, made the statement that the international regulations state that in the adoption of the autoalarm it did not preclude a nation from requiring a piece of apparatus aboard its ship that would automatically receive the distress signal. Now, that is true. I helped write that provision. I was at the conference and I am one of the, you might call, authors of that sentence. It was done deliberately so that a country would feel free to develop a piece of apparatus that would automatically receive the S O S. But it is significant to note that no country has and I do not know of any instance where it is being used. Apparently it has not been developed to the point where it is satisfactory, and therefore, you do not find it anywhere.

Mr. DOLLIVER. If I may paraphrase your testimony, Mr. Webster; the gist of it is that you are not opposed to improvements, such as are contemplated in this kind of equipment. You would feel that that might be desirable and welcome in radio communications. At the present time, this equipment has not measured up to standards which you deem appropriate and if the equipment is improved, why, it is altogether possible within the future it may be voluntarily accepted, or perhaps, if necessary, by legislation be required. Is that it?

Mr. WEBSTER. I think that is a fair statement, sir. I would like to illustrate that through the radar. Practically all ships carry radar today. There has been no legislation passed to require it. It is not by statute, it is by their voluntarily putting it aboard, because it serves a useful purpose. And it has been developed through the years. The first ones that went aboard were not too good, but it is much better today. It has been through that process of evolution and development. The Commission encouraged that and I had a hand in encouraging it. So nobody can say that either I or the Commission have discouraged any development in the radio field.

Mr. DOLLIVER. Thank you, Mr. Chairman, that is all.

Mr. HARRIS. It is true, however, that in the case of the autoalarm, the legislation provided for was based on the international agreement and applies to all ships, whereas this would only apply to American ships?

Mr. WEBSTER. That is correct, sir.

Mr. HARRIS. I have an interesting report here from the Department of the Navy. I wonder if you had any comment on it. After acknowledging the request for a report and studying the purposes of the measure, this report says:

> The Department of the Navy on behalf of the Department of Defense, interposes no objection to the enactment of this legislation. This report has been coordinated with the Department of Defense in accordance with the procedures prescribed by the Secretary of Defense. The Department of the Navy has been advised by the Bureau of the Budget that there is no objection to the submission of that report on H. R. 4090 to the Congress by the Secretary of the Navy.

It is signed by Ira H. Nunn.

Are you familiar with this report?

Mr. WEBSTER. No, sir, I am not.

Mr. HARRIS. You would not want to comment on it then.

Mr. O'HARA. I want to say that this does not affect the Navy one particle.

Mr. HARRIS. Mr. Commissioner, would it be convenient for you to come back Friday morning?

Mr. WEBSTER. It certainly will.

Mr. HARRIS. Mr. Mack has a number of questions that he would like to put.

Mr. WEBSTER. I will stand by for Friday morning, sir.

Mr. HARRIS. If you would. We trust that it is not too inconvenient to you.

Mr. WEBSTER. Not a bit, sir, I am at your disposal.

Mr. HARRIS. However, with these interruptions that we have, it is not under our control and we cannot do anything about it.

Mr. WEBSTER. I know.

Mr. HARRIS. May I ask Mr. Strichartz if he is present?

Mr. STRICHARTZ. Yes, sir.

Mr. HARRIS. Would it be convenient for you to be back on Friday?

Mr. STRICHARTZ. It is possible. I have not checked what else is on my schedule. It will be the fourth time I am coming down, because this is the third on this same bill.

Mr. HARRIS. Of course, you are a proponent of the bill, as I understand, and we tried to hear all the proponents in the last session. I was not aware that you were being caused inconvenience. We were taking the witnesses as they were being presented by the proponents.

The committee will adjourn until Friday morning at 10 o'clock.

(Whereupon, at 11:10 a. m. the subcommittee recessed, to reconvene at 10 a. m., Friday, May 6, 1955.)

COMMUNICATIONS ACT OF 1934

(Automatic Radio Call Selectors on United States Cargo Ships)

FRIDAY, MAY 6, 1955

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE
ON TRANSPORTATION AND COMMUNICATIONS,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met, pursuant to recess, at 10:15 a. m., Hon. Oren Harris (chairman of the subcommittee) presiding.

Mr. HARRIS. The committee will come to order.

When the committee adjourned on Wednesday, we were interrupted by a call of the House. Commissioner Webster was being questioned by members of the committee. Mr. Mack, a member of the committee, had some further questions.

Commissioner, we appreciate your coming up here today. I am sure you understood our situation at that time. We had no control over it and we do want you to know that we do not want to inconvenience you any more than is necessary, but we do appreciate your coming back.

Mr. Mack, you have some further questions, I believe?

STATEMENT OF EDWARD M. WEBSTER, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, D. C.—Resumed

Mr. MACK. Mr. Commissioner, I want to also express my appreciation for your cooperation and your willingness to come back this morning.

Mr. WEBSTER. Thank you, sir. I am always glad to come up here.

Mr. MACK. The last time you were before our committee, we talked about this same subject and I do not want to get into it in any great length, but you have mentioned the fact that the shipowners have voluntarily placed radar on their ships and that you question the advisability of requiring them by legislation to put the auto selector on board ship. I mentioned the first time that I thought it was completely beside the point, the fact that they voluntarily put radar on these ships. It is like putting another searchlight up on top of the ship so they can see the shore. The automatic selector is a safety device that protects the other ships at sea and provides a means for rescue and it is definitely an aid to all the people that are using the water for navigation purposes. I wanted to ask you this morning if this autoalarm was placed on these ships voluntarily.

Mr. WEBSTER. No, sir; the autoalarm was not. I would like to go back to comment on some of your remarks in regard to the radar, and then come back to the autoalarm.

I used the case of the radar as an illustration to show that they placed it aboard voluntarily and obtained experience and they worked out the bugs, as we call it in engineering, worked out the bugs in the equipment and by a process of evolution they have improved it. That has been usually the course that has been taken with things of that kind. I do not believe there has been very much legislation in regard to imposing something on ships until it was fairly well established that the equipment met or answered the purpose or the problem. That is the reason I used that as an illustration. Congress has not seen fit yet to legislate it. It is in a situation now where we know what the radar will do, and so forth, and maybe Congress will take that up some time. Here is a piece of apparatus that we do not know too much about at the present time and I repeat what I said the other day, I do not mean to say that it cannot be done. I think engineers can do it, but there is a lot to be done before you can authorize a piece of equipment of this kind aboard the ships and I have pointed out the criteria and the standards that have to be fixed. They have not yet been fixed and nobody knows what they are going to be, I do not know at this moment, because that is going to come after a great deal of discussion and study. I am only addressing myself here to the equipment that we have in front of us. We have this peice of equipment that we have tested. Now, what can be done to meet a criteria and standard, that I feel sure is going to be more strict than has been used by this manufacturer, I think if you will compare this with the autoalarm, the standards and the criteria that we used in the autoalarm and what we call the policing of circuits, and so forth, in case a circuit in the autoalarm should become ineffective there is a policing arrangement, a bell will ring, or something like that. I do not think that has been incorporated in this piece of equipment that we tested. There are various things of that kind.

Now, the autoalarm was not placed aboard voluntarily, because in this country there had not been developed an autoalarm previous to 1929, but it had been tested. I say tested, because it had been used and found acceptable by other countries. We went to the International Conference in 1929 where, after a great deal of discussion of 2 months, we accepted the idea of the autoalarm. I just wish the late Senator White was here. He could tell you about those 2 months we went through in London in regard to this autoalarm, and everything else. The United States decided that we would go along with the rest of the world in the use of the autoalarm. Our manufacturers came through and made a very good autoalarm. Today it is much better than it was then. Before 1929 there was no incentive to use the autoalarm. Our law was old and outmoded. There was confusion as to what this country was going to impose on its ships and I think it was natural that they did not put it aboard voluntarily until they found out just what the new law was going to be, what the new International Conference was going to come up with. So I think there were reasons at that particular time why it was not put on board voluntarily. I cannot speak for them because I do not know what was in their minds at that time, but I think from the contact that I had with them in 1929 that is probably the reason.

Mr. MACK. It was developed by the British, I believe?

Mr. WEBSTER. It was first developed by the British; yes.

Mr. MACK. Just to be sure that we understand each other, I was not trying to mislead you on radar. I realize that it is necessary to work out the difficulties in any mechanical device, but I was not putting radar in the same category as the autoalarm. I was putting it more in the category of an aid to navigation for the ship itself, such as a searchlight or something that would assist the ship in navigation. With the autoalarm I think it is something that involves the safety of all ships at sea, and therefore it is a great asset to each individual ship and that is the reason I thought you had legislation requiring the autoalarm. You did favor the autoalarm on board the ships, is that not correct?

Mr. WEBSTER. I hate to prolong this discussion, but if you would let me have about 2 minutes, I will try to explain really what was behind the autoalarm situation.

This country up to 1929 had an old law passed in 1910, modified in 1912, that would have required under that law, all ships to carry the human operator and stand watches. There was no autoalarm, nothing of that kind. But the law became outmoded because it did not apply to all ships. Unfortunately, the wording was such that it did not apply to but very few ships and mostly passenger vessels, which were small in number. When we went to the conference in 1929 to meet the rest of the world, we were faced, and I say "we," the United States delegation was faced, with a situation of an economic problem in regard to our merchant marine and the rest of the world was faced with exactly the same thing as to whether or not cargo vessels could afford the expense of 3 operators, at least 3 operators or, say, at least, even 2. As I say, after 2 months of discussion with Senator White leading our delegation, it was decided that we could not conscienciously as a delegation agree or insist that the world go on a system of human operators to cover the entire 24-hour watches on board cargo ships. We accepted the idea of a mechanical device to cover the rest of the time over the 8 hours. Now we balanced various things, one of them being economic, it is true. The rest of the world would never have agreed to a treaty that would have imposed human operators and no autoalarm, and so the United States was in a position of agreeing with the rest of the world on that and the delegation felt that our engineers could produce an autoalarm much better than the British, so we went along with it; that is the story of the development and use of the autoalarm.

Now, when we brought that treaty to the Senate and also a new radio bill which would bring our law into conformity with modern ideas, the Congress felt that they should parallel the provisions of the treaty and the Congress in its wisdom wrote into the act practically the same formula that we came back with from London in 1929. It went further than that because the treaty only applied to vessels on international voyages and the treaty did not apply to vessels on domestic voyages. The Congres , in its legislation following 1929, brought the domestic ships up to a level of the requirements that were being imposed by the international treaty. We then had under that new act of 1937—it was not until 1937 that they got around to the legislation—where all ships were placed on a par. The standards under that 1937 legislation and under the new legislation here in 1949, have raised the standards over the old standards of 1910 and

1912 and I think we have the highest standards in the world now in regard to our radio setup on board ships.

Now, that is a very sketchy background of the development of the autoalarm.

Mr. MACK. Well, I appreciate the background on it, Commissioner. You did support the legislation, though, I mean you did come to the Congress for the legislation in view of the background; is that correct?

Mr. WEBSTER. I do not know what you mean by my coming to Congress and supporting the legislation.

Mr. MACK. My original question was, did you favor the alarm on the ships?

Mr. WEBSTER. Yes, sir.

Mr. MACK. And to follow that, you had been active in this legislation. You had been active in this movement and my question was, did you come to Congress and support the legislation or advise it or indicate that you might favor it?

Mr. WEBSTER. I have no hesitancy at all in saying that I think radio engineers can produce mechanical equipment that can be made efficient and satisfactory for its purpose. I do not believe it can operate 100 percent. All equipment is subject to failures. But I think that we can even build this equipment to a high degree of efficiency. I have no doubt of that and I have said that, I think, in my testimony here. However, I did say that the equipment that was shown to us does not, in my opinion, meet a high standard criteria or standards.

Mr. MACK. I am speaking, Commissioner, of the autoalarm.

Mr. WEBSTER. Of the autoalarm?

Mr. MACK. Yes, sir. My question was, did you come to Congress to assist in the passage of the legislation?

Mr. WEBSTER. Yes, sir, and I was in favor of the autoalarm. I was in favor of the autoalarm; not because, altogether, that it was a piece of equipment of high efficiency, but because of the economic problem and other weights that had to be used. I did not believe that we could impose on our merchant marine, on the cargo vessel, more than the one radio operator and a mechanical device would be sufficient for the rest of the time. Now, the rest of the world has been doing that, it has been very satisfactory and the Commission has plenty of records to show that the autoalarm system has worked. I do not mean by that that every single autoalarm functions 100 percent, but as a system there has been no difficulty in regard to it.

Mr. MACK. Well, that was my understanding, that you did favor the legislation?

Mr. WEBSTER. I did.

Mr. MACK. And that you worked quite closely on safety legislation; that you were interested in promoting the autoalarm?

Mr. WEBSTER. Yes, sir.

Mr. MACK. It is my understanding that you did want the autoalarm on all the ships at sea?

Mr. WEBSTER. I did.

Mr. MACK. You felt it had some safety value regardless of the opposition, and I believe there was some opposition at the time.

I wanted to ask also, Commissioner, and I guess it is true of everything in the past, usually we waited for a disaster to occur before we

came to Congress or before we secured the right regulations to prevent future disasters; is that not correct?

Mr. WEBSTER. Yes, sir; that often happens.

Mr. MACK. As we say in our rural areas, you close the gate after the cows get out.

Mr. WEBSTER. That often happens; yes, sir.

Mr. MACK. I was just wondering if you did not think it would be practical to pass preventive legislation rather than wait until a major disaster of some nature occured before you pass the legislation.

Mr. WEBSTER. I think that can be done. It depends on the particular piece of legislation. I do not know what I would use that——

Mr. O'HARA. I would ask that the witness be permitted to finish his answer.

Mr. HARRIS. The gentleman may proceed. It is a fact that the Commissioner has taken plenty of time to answer questions.

Mr. O'HARA. He was going to say something now.

Mr. HARRIS. Did you have a comment to make?

Mr. WEBSTER. I am going to suggest that we start all over and let Mr. Mack start. I do not remember exactly where I stand on answering his question.

Mr. MACK. Mr. Commissioner, I was saying that my question was of very general nature, I did not refer specifically to any particular mechanical device.

Mr. WEBSTER. Preventive legislation, in my opinion, is always desirable if we can settle on whether it is desirable or not.

Mr. MACK. Well now, I was interested a few minutes ago when you mentioned that the British had developed this autoalarm. Do you think it is the custom of our country, or advisable to wait until the other countries develop safety devices and accept the devices on international treaties and then finally have our country come along and manufacture devices to get up on the same level, or do you think we should take the lead in matters of this nature?

Mr. WEBSTER. Mr. Mack, the United States should be out in front and lead the rest of the world in everything. I certainly have worked hard over the years to try to get this Government to step out and improve, develop equipment in the merchant marine in particular. Now I do feel that there was an era in our history from 1910 up to 1929 when the United States Government did not give enough attention to this subject and it was the developments around 1929 when we were getting ready to go to the International Conference that spurred us on to thinking about this problem. The British had been ahead of us in the autoalarm situation, but there were those in this country who felt that human operators were the answer to radio watches in the handling of radio aboard ship. There was a conflict that developed there as legislation was discussed. I think the Congress in its own wisdom said, as I see in the legislation, that we cannot afford to impose on the merchant marine human operators for the 24 hours, and so they accepted the mechanical device.

Mr. MACK. So in reality, you were doing them a favor by making the autoalarm available to the shipowners?

Mr. WEBSTER. Well, I do not know whether I put it in that language or not. I do not know what was in the back of the minds of Congress, except that it was an economic problem.

Mr. MACK. But in your opinion you think it preferable to have the autoalarm rather than the additional radio operator?

Mr. WEBSTER. I think that the human being is always better, but in this day and age I am convinced that we can do more and more by mechanical means. You see that all around you everyday.

Mr. MACK. That is true.

Mr. WEBSTER. Aviation, as you know, is running on a pushbutton basis, and the mechanical devices that are being used in this world today by the use of radio are marvelous, and there is no reason in the world why it cannot be adapted to the merchant marine and take care of the economic problems of the people.

Mr. MACK. Well, it is economically more feasible to have the autoalarm than to have the additional radio operator?

Mr. WEBSTER. Certainly, I should think so.

Mr. MACK. Mr. Chairman, I am consuming much more time than I planned on this morning. I would like to ask a few more questions.

I wonder, Mr. Commissioner, you mentioned the standards and the criteria for this equipment and under the provisions of this bill, would not the FCC set the standards of performance and determine whether any device submitted meets the standards of the FCC and Congress?

Mr. WEBSTER. Yes, sir; and that is what I have said previously. I said, I think the other day, that one reason why I have gone to great lengths to talk about this, the standards and the criteria, is that I want everybody that is in this picture to know that that is what the Commission will be up against if the bill is passed. I do not want anybody to come in the next day after the bill is passed and say, "We want you to approve it the next day." I want them to know that there are elements in the standards and the criteria that are yet to be discussed and determined because there are things lacking in the present piece of equipment that we have been looking at; that has been my major point. The Commission will have to approve the equipment. The Commission will have to set the standards and the criteria.

Mr. HALE. By "present piece of equipment" you refer to what?

Mr. WEBSTER. To the one submitted to us by the Brelco Co. for test.

Mr. HALE. In connection with this legislation?

Mr. WEBSTER. In connection with this legislation; yes, sir. That has been my main point, that those things have not yet been determined and I think there is going to be a great deal of discussion. I am sure the company is going to raise objections maybe as we go along. I am sure the radio operators will want a high standard and there will be numerous things in the standards and criteria that will be under a great deal of discussion. I do not want them to be fooled by it and say that we are getting too tough. I want to put them on notice now that I for one, as one Commissioner, and the Commission, are going to insist that we have high standards in it as we have in the autoalarm today.

Mr. MACK. I personally would not want this equipment approved if it had been misrepresented before this congressional committee, but I did want to make it clear that Congress does provide that the FCC set the standards of performance for any device.

Mr. WEBSTER. That is correct.

Mr. MACK. You mentioned a little earlier that the autoalarm was not mechanically perfect as it was developed originally. I gather that it has been improved as time has passed, is that correct?

Mr. WEBSTER. Yes, sir. During the past year we put out a new set of specifications. We have gone through our processes to determine those specifications, and equipment under the new specifications is now being produced. My engineers in the Commission tell me that that new equipment under the new standards is of a high order of efficiency and is far better than the equipment we have had before.

Mr. MACK. If you set new standards in the last year I would assume that the equipment is not perfect as of this time?

Mr. WEBSTER. Well, when you say perfect, I suppose you mean 100 percent?

Mr. MACK. Yes.

Mr. WEBSTER. That is, there will never be a false alarm and things of that kind?

Mr. MACK. Yes, sir.

Mr. WEBSTER. I do not know whether this new autoalarm will give you that degree, 100 percent, or not; but it is certainly far superior to what we had before. Now, the Commission has not been asleep on this job. From the very beginning they have been reviewing this from year to year to see whether or not the state of the art was such that we could set higher standards. Now, you cannot set higher standards if the art cannot produce it. So we have studied it, our engineers have studied it from year to year, has watched the experience that has been had with it and it was during the last year or so that we felt that the time had come, because of the state of the art, that we could improve the standards, and we did.

Mr. MACK. It has improved over the years though?

Mr. WEBSTER. Oh, yes.

Mr. MACK. Why would that not be true of the autoselector?

Mr. WEBSTER. I would anticipate it would, yes, sir.

Mr. MACK. This principle of a selective calling and alarm device is not new, is it?

Mr. WEBSTER. I do not believe it is. The only one that I personally have heard about was the one that was produced by this company originally that I believe responded to the call signal of the ships. There may have been others, but the principle is not new at all.

Mr. MACK. I would conclude from your testimony that a device to perform these functions is not impossible, is it?

Mr. WEBSTER. Well, impossible, as some people have said, takes a little bit longer. No, I do not know whether I would go so far as to say it is impossible. It certainly is, I think, practicable.

Mr. MACK. You think it is possible to develop a device similar to what we are outlining in this legislation?

Mr. WEBSTER. I think they can develop a device, but I think there are some qualifications that have to go along with that statement and there are several things, and I will just illustrate. There is no international agreement, for instance, I come back to this length of dashes and dots and spaces in between. This is a mechanical device that is a timing device. It works on the principle of timing. You have a dash that is so many seconds long. In building a device, it has to operate on that time element and if the operator holds his key down twice as long as is required, the equipment will not operate,

so that there has to be an understanding about the length of dashes and the spaces in between the dashes and the dots, and so forth. Now, that is not impossible to get to, but that is an international problem if you are going to depend at all upon being able to receive from foreign ships. Also, will the operators on our ships comply with any regulations with regard to the sending of dashes and dots. They all have their peculiarities in sending. So that when it comes to the autoalarm signal, however, those are plain dashes without any dots and a great many of the ships today have mechanical devices to send those dashes, they have clocks in front of them to time the dashes, if he wants to do it by manual means. It is a much simpler means when it comes to the autoalarm signal than it is to send call signs of ships. There are some call signs that are predominantly dots, there are some call signs that are predominantly dashes. All of that enters into the picture. They are qualifications that I have to make; that is just an illustration. It is not just a simple matter of building a piece of equipment. There are operating problems that go along with it that the operator will have to comply with.

Mr. MACK. In view of the electronic wonders of the last 10 or 15 years, it does not seem that this would even approach being in the realm of impossibility, does it?

Mr. WEBSTER. It is not impossible, no sir.

Mr. MACK. Well, I wanted to ask you about the safety value of this automatic selector that has been discussed here and I would like to ask about the autoalarm. It responds only to the distress signal, does it not?

Mr. WEBSTER. The autoalarm, sir, responds to a series of dashes.

Mr. MACK. Excuse me.

Mr. WEBSTER. I beg your pardon, I should have waited for you.

Mr. MACK. That is perfectly all right. I should have said just the one signal, the distress signal?

Mr. WEBSTER. Yes, sir. What happens is, the man or the ship in trouble, before he sends out a distress call—that is the S O S, he sends out these series of dashes in order to alert the vessels around him. In other words, it rings a bell on the vessels around and in the area. The operators on those ships then go to their posts at the radioroom and then the distress call is sent so it is an alerting system for the purpose of getting the operator to his post.

Mr. MACK. But the disaster must have already occurred at that time?

Mr. WEBSTER. That is a question of judgment on the part of the master on the ship. The bare wording of the regulations or the international rules is that you send a distress call if you are threatened by grave and imminent danger and you want immediate assistance. Now there are times when a master will send his distress call maybe before he gets into a situation that requires immediate assistance. You cannot tell, that is a matter of judgment on the part of the master. I doubt that any master looks at that language that I have quoted and tries to find himself either in the confines of that language or outside. If he feels he wants assistance, he sends a distress call. If he finds he is not in a situation where he wants immediate assistance, and he wants to get hold of his owners, he sends a message through other channels to his owners or some other organization. Now, our companies, a great many times you will find that they will send a message to their owners

or they will send a message to the Coast Guard instead of sending a distress call. So it is a matter of judgment. The words in the international rules are there to give guidance. So whether he is sinking or he is not sinking really is not in the picture when you come to decide whether you send a distress call or not.

Mr. MACK. But he would be in imminent danger. In his opinion there would be a disaster about to occur?

Mr. WEBSTER. Yes, sir.

Mr. MACK. Well, the TTT and the XXX signals both indicate some message very important to safety, is that correct?

Mr. WEBSTER. That is correct.

Mr. MACK. And the repetition of the S O S calls or the S O S messages before each distress call or message, is that not correct?

Mr. WEBSTER. I am a little confused. You were talking about the urgency and safety signals. Neither of those signals are coupled with the distress.

Mr. MACK. I am aware of that, and I am sorry to have confused you on it. My question was, do they not send the S O S prior to a distress message?

Mr. WEBSTER. That is correct.

Mr. MACK. And this selector device, this automatic selector, would be triggered off each time they send the S O S?

Mr. WEBSTER. That is correct.

Mr. MACK. So if there were some failure, each message being sent would provide another chance of triggering off this selector device?

Mr. WEBSTER. That is true.

Mr. MACK. Well, if this device is as represented, does not the FCC think that that would contribute to safety?

Mr. WEBSTER. Yes; I think—I have forgotten exactly the words the Commission used in its statement. I think they would say it contributes to safety and, like a great many things, would contribute to safety. It is just a question of degree as to how far you want to go to put equipment aboard ship in the interests of safety. We probably could think of a lot of other things too. But I think I said in my statement that there was a lot of merit to this device. I just question whether it should be done at this particular time by statute when we have a system that is being recognized and is working.

Mr. MACK. Mr. Chairman, I realize I have already exceeded the time limitation here. I have one other thought that I would like to get into at this time, and I hope it will not take over 2 or 3 minutes.

Mr. HARRIS. Thank you. The Chair is very desirous to getting to some other witnesses, particularly two who are from out of the city, one of whom has been here the fourth time. I assured him the other day we would get to him this morning.

Mr. MACK. Thank you, Mr. Chairman. I will make it brief.

Mr. Commissioner, have the shipowners ever come to the FCC proposing that new equipment for safety be required?

Mr. WEBSTER. I do not think they have, and I do not know of anyone else that has.

Mr. MACK. Have they ever put such safety devices aboard their ship voluntarily?

Mr. WEBSTER. I do not know enough about their internal operations. I come back to my one illustration of the radar because I think that is a safety device.

Mr. MACK. Well, have they ever supported the requirement for any safety devices?

Mr. WEBSTER. I think that they have supported all the proposals that have been made either up here in Congress, or by the Commission.

Mr. MACK. You mean they have not violated the law and have complied with the laws that we have passed?

Mr. WEBSTER. No, in the formulation of those laws, there were extensive hearings, and I think you will find in those hearings that they support it. There were differences of opinion between people as to what should be done, but I do not think there was any objection on the part of the shipowners to providing a proper safety system and I think they supported the formula that was established at the International Conference in 1929. They were with us at the conference in 1948 in London and I think they supported us there in our proposal.

Mr. MACK. Well, to put it very mildly, they occasionally do oppose such legislation, do they not?

Mr. WEBSTER. Yes, sir, and I think you will find that everybody opposes here and there. There were other oppositions in this legislation. In fact, there were oppositions to the autoalarm; not from the shipowners, though.

Mr. MACK. And occasionally they plead that the requirements should be lowered?

Mr. WEBSTER. I do not know that I have ever experienced any shipowner coming to me proposing any lower standards. Now, there are differences of opinion, of course, as to what formulas should be and what criterias should be.

Mr. MACK. I want to ask if the shipowners did not oppose the requirement of an emergency antenna?

Mr. WEBSTER. They may have. I would have to look into our records on that.

Mr. MACK. It is my understanding that they did and that they deferred the requirement.

Mr. WEBSTER. I may be wrong, but it seems to me, as I recall it, the opposition was to having an emergency antenna rigged—that is, in the rigging, but I do not think they opposed the antenna to be supplied aboard the ship.

Mr. MACK. I also understand that the shipowners objected and were reluctant to keep the radio transmitters, lifeboat radio transmitters, aboard their ships?

Mr. WEBSTER. Well, now, that is another matter of detail that I would have to look into the record on, but generally speaking I think there were differences of opinion as to where the equipment should be kept, whether on the lifeboat or on the boat, to be put in the lifeboat when it was to go.

Mr. MACK. I understood that they were very reluctant to do that and they were also reluctant to keep the transmitters in good working condition?

Mr. WEBSTER. I have not heard that. Maybe that is so.

Mr. MACK. Mr. Chairman, I appreciate the courtesy of my fellow colleagues here and I regret that I have consumed so much of our time.

Mr. HARRIS. We want you to take all the time to develop the information that you wish.

Mr. MACK. Thank you.

Mr. HARRIS. Mr. O'Hara?

Mr. O'HARA. Mr. Chairman, Mr. Mack's examination has answered a lot of my questions in responses of the witness, but I have 1 or 2 short questions, Mr. Commissioner. I notice on page 3 of your statement, your supplemental statement of yesterday, that you give us in comments 5 and 6, or in the questions in 5 and 6 it shows that the tests of the equipment on 500 kilocycles range from 46 percent to 92.5 percent and of the true responses on the 8,280 kilocycle for the various signals ranged from 53.7 percent to 100 percent. As I understood your responses to the questions yesterday, you felt that based upon the tests which had been made by the experts of the Commission and even assuming that more criteria might be developed for further tests, that you still felt under the tests that were given that this model which this company has developed and, as I understand it from the testimony, it is the only model that has been developed, that that is not a satisfactory test on which you feel the Commission should recommend passage of legislation and installing it on the ships?

Mr. WEBSTER. That is correct and I think I made it clear several times that these tests are only significant when you put them alongside of other tests that would have to be made under actual operating conditions, take them out to sea and put them on the ship and run them through a certain test, or take them to a shore station and run them through tests. These were simulated conditions in a laboratory. No. 5 that you were referring to as an illustration, 92.5 percent using a call WJJJ, I do not know how the engineer selected that particular call, but that call is different than a great many. It has a great preponderance of dashes in it. That is one of the reasons why the high percentage of 92.5. But there are a lot of calls that do not have that high percentage of dashes and I do not know that you would get a percentage of 92.5 if you used all of the possible calls, and I am not saying that we should design it to be able to operate necessarily on all the possible calls, but there ought to be a median drawn some place. These figures here I took from the report itself which said that when they used that call it got 92.5. But that is not conclusive at all.

Mr. O'HARA. When this equipment, or any other equipment of that nature, is operating in the Orient or where there is a great deal of static, you have a great deal more difficulty in clearing, you have to have a far more accurate instrument that you would under ideal conditions for transmission, is that not true?

Mr. WEBSTER. Yes, sir; and that is one of the biggest problems we have in designing equipment that will be used in any part of the world. Now, I remember very distinctly when we were meeting with all interested parties to bring up or determine a standard and criteria for the autoalarm. The great problem there was to put into that formula something that would take care of this high static level and I will illustrate, in the Gulf of Mexico. If I remember correctly, the radio operators very properly came in and said, "Look at the Gulf of Mexico, the high degree of static we get down there." They were insistent that something be placed into this formula that would take care of a situation of that kind. I think that we all recognized that it was so high down there that we could not make it 100 percent in that area, but when you took the average all over the world, I think we came out with a pretty good answer. But those that insisted that we design it or set specifications that would take care of these high noise levels throughout the world, I think it was proper, and I

think the radio operators very properly came in and insisted that we take notice of that.

Mr. O'HARA. Taking a practical situation, Mr. Webster, this equipment if it was directed to be put on American shipping by legislation, an American ship, naturally they go all over the world, do they not? They may operate a short time in American waters and a good share of their time they are operating in foreign waters. Just what benefit would this equipment have, the rest of the shipping of the world not having it, just how much good would this equipment be to an American ship operating in foreign waters?

Mr. WEBSTER. An American ship would be able to receive any of these signals sent by any other ship, or even a shore station. I suppose there are various conditions that it would be helpful to the ship that had this equipment aboard. If he was called by a foreign shore station or foreign ship, using calls, and this operated efficiently, he would receive the call. When it comes to safety I think the theory has always been that every ship is a potential lifeboat and I think that is the key to our present system, that each vessel is a potential lifeboat. So that the vessel in distress or in trouble, when he sends out his autoalarm signal, he alerts everybody in the area. If he wants to call someone in particular, he can use the call sign and this would operate if it was efficient. Sir, I am not trying to dodge the question, but I just do not visualize offhand the great use it will be to the vessel. They may explain it to you, those proponents of this may be able to explain it to you how they, as operators, can make use of this.

I would like to make the statement that I have always felt that the man out there with the key knows a little bit more about this than I do. I will be waiting with interest to see their side of the story as to how they that are sitting out there handling the keys, how it is going to be of value to them.

Mr. O'HARA. They have the autoalarm now, do they not?

Mr. WEBSTER. Yes, sir.

Mr. O'HARA. The autoalarm, in the event of emergency, does exactly the same thing this piece of equipment would do?

Mr. WEBSTER. It does not do exactly the same thing, but it is an alarm system that answers the purpose. In other words, it provides a system that our records show is perfectly satisfactory to take care of distress situations. Now, I have a great many records in the Commission. We have charts, we have history of distress cases, we know where all the ships were in a particular distress case, we know what ships' autoalarms went off, those that failed. But in none of those cases have we ever found that there was a disaster that was not taken care of by ships in the area through the use of the system. There may have been one or two ships around where the autoalarm did not function, but that does not mean that the distressed vessel was not helped. There was somebody that heard it.

Mr. O'HARA. I guess that is all, Mr. Chairman.

Mr. HARRIS. Mr. Dollinger?

Mr. DOLLINGER. No, Mr. Chairman.

Mr. HARRIS. Thank you very much. Mr. Commissioner, let me ask you this one question. Did I gather from what you said a moment ago that there are very rigid strict rules that must be complied with by ships at sea with reference to distress signals?

Mr. WEBSTER. There are very rigid rules as to what they should do in a distress case.

Mr. HARRIS. In other words, they must be very careful not to send a distress signal to all ships at sea unless they are aware that an immediate emergency is impending?

Mr. WEBSTER. It is not in the hands of the operator at all. It is the master of the ship that releases the distress call and the distress message. It is the master's responsibility.

Mr. HARRIS. I know and I appreciate that. The point I was trying to arrive at here, to see if I understood you correctly, is as follows: Should this autoradio call selector device be required by legislation, would it interfere with the present regulations which all ships at sea must comply with with reference to distress signals?

Mr. WEBSTER. Offhand I do not know of anything that would interfere with it.

Mr. HARRIS. Is there some fear that a lot of distress signals might be sent, if such an installation were required, when perhaps it would not actually be necessary?

Mr. WEBSTER. No; I do not think that is in the picture at all.

Mr. HARRIS. I did not get that impression. Thank you very much. We appreciate the information you have given to the committee.

Mr. WEBSTER. I am at your service any time.

Mr. HARRIS. Mr. Morris Harvey Strichartz?

Mr. Strichartz, we will be glad to hear you on this occasion. We realize that you have been inconvenienced perhaps more than usually necessary, but I will assure you that the committee had no choice in the matter ourselves and we are glad to get finally to you today, and appreciate your coming back down here.

STATEMENT OF MORRIS HARVEY STRICHARTZ, TECHNICAL DIRECTOR, AMERICAN RADIO ASSOCIATION, CIO MARITIME COMMITTEE, NEW YORK, N. Y.

Mr. STRICHARTZ. Thank you. I have a prepared statement. I have found it necessary to depart from it frequently in the light of the testimony that has already been given, so that what I read now is not the text of the mimeographed statement I gave to the clerk of the committee.

Mr. HARRIS. It is the usual practice and you certainly would be given that privilege that your entire statement may be included in the record and that you can brief as much of it as you desire, or refer to other matters in your statement.

(The statement referred to follows:)

TESTIMONY OF THE CIO MARITIME COMMITTEE ON H. R. 4090 TO AMEND PART II OF TITLE III OF THE COMMUNICATIONS ACT OF 1934

My name is Morris Harvey Strichartz. I am the technical director of the American Radio Association, CIO, the members of which are radio officers aboard United States merchant ships. The ARA–CIO has collective bargaining agreement with almost 75 percent of the steamship companies operating every type of vessel—passenger ships, freighters, tankers and colliers—out of the Atlantic, Pacific, and Gulf of Mexico coast ports. This statement is made on behalf of the CIO maritime committee, of which the American Radio Association is a member.

The ship radio officers who provide communications for safety, navigation, ships' business, and defense are interested in the legislation under consideration by your subcommittee, H. R. 4090.

The purposes of the radio requirements set by the Congress in the Communications Act of 1934 as amended, which this bill proposes further to amend, are contained in section 1 of that act, which states that the public interest dictates that provision be made for the safety of life and property at sea as well as for the purpose of national defense, through efficient radio and communications.

To increase the efficiency of communications so as better to provide for the national defense as well as safety of life and property at sea, we went on record in favor of this bill's predecessor, H. R. 6004, and suggested certain improvements and safeguards.

First of all, because that bill provided compulsory installation of a particular piece of equipment, we asked, at the outset, that it have written into it safeguards against establishing a monopoly for any one piece of apparatus, the holder of any one patent or set of patents, or any one radio equipment company which might hold such patents and manufacture such equipment. The committee concurred, and as reported favorably, the bill had added to it, the requirement that patents for such equipment as is type approved by the FCC for compulsory installation to meet the requirement of this bill must be made generally available through fair and reasonable arrangements for licensing of patents to such equipment. The present bill keeps this identical safeguard in section 4.

About the only thing that can be said for marine radio apparatus is that it is built ruggedly, capable of taking the impact of mechanical shock it receives in rough seas. This is partly because the Government agency that is charged with the responsibil ty of regulating to foster advance, the Federal Communications Commission, has adopted what must be described as a stick-in-the-mud approach to the problem of fostering advancement of the marine radio art. Their completely negative attitudes toward the predecessor bill as well as toward this bill, as embodied originally in their comments filed with this committee, are typical.

This is not to say that the Federal Communications Commission has not done a worthy job of administering the law. It has enforced the marine provisions of the Communications Act, in its numerous ramifications, worthily. We have had our differences with the Commission on some matters, and we have sided with the FCC on other dockets, but in general, we have no cause to complain that the FCC is not enforcing the law well, because we believe it definitely is, to the best of its ability and resources. It may be that it is too much to ask of a regulatory body that it undertake to sponsor, foster, and stimulate technical advancement; perhaps that is a function that the Congress cannot delegate, but must continually interest itself in. Especially in so sluggish a field as the maritime industry which has not applied much stimulus for progress to the FCC. The maritime industry is heavily burdened with age-old traditions making change very slow. The seas and the tides, the winds and the currents haven't changed much since Noah sailed the Ark, but neither has the maritime industry. Where maritime radio is concerned, the FCC seems to have accommodated itself to the same lack of drive for advancement that is common to the maritime industry. That is apparently the only explanation for the negative stand the FCC has taken toward this bill. By way of providing background for this discussion, let me sketch briefly what the communications provisions aboard the ships are at present.

All American-flag merchant vessels except the 40 that are passenger ships carry only 1 radio operator, to whom Congress granted that status of a licensed officer in 1947. The radio officer stands watch in the ship radio station, or radio shack as it is called, for 8 hours a day, listening to signals on 500 kilocycles, which is the main international calling and distress frequency. Here is how it is used as a calling frequency: Ships of all nations initiate routine calls on this frequency, but then immediately shift to another frequency to send or receive the actual messages. When a ship is in distress, it is on 500 kilocycles, the international distress frequency, that the distress call, the S O S is sent. All subsequent message traffic between the vessel in distress and the ships proceeding to its assistance is carried on 500 kilocycles. Other vessels must maintain complete silence on 500 kilocycles during such distress traffic.

What about ships which have only 1 radio officer, who has completed his 8 hours of watch when the distress signal is sent? We have always felt that to adequately provide for this eventuality, a continuous human radio watch should be maintained, by at least 3 radio officers. This is the practice aboard naval vessels, but that approach was rejected in the maritime industry, about a quarter of a century ago when a substitute was offered, a device known as the auto alarm.

The auto alarm is a unit which is supposed to receive and respond to what is known as the international auto-alarm signal; a vessel in distress is supposed to follow the following procedure: Transmit on 500 kilocycles 12 long dashes, each 4 seconds long, separated by 1 second intervals. In theory, the auto-alarm apparatus is supposed to be activated by any 4 consecutive dashes, which is supposed to ring bells in the radio officers quarters, on the navigating bridge of the vessel as well as in the radio room, to summon the radio officer to go on watch to listen for the distress message of the stricken ship. Two minutes after the transmission of the auto-alarm signal, the actual distress message is supposed to be sent. Note that I have stated each of the procedures as hypothetical ones, since that is the ideal condition which unfortunately does not always prevail, due to lack of time and other reasons.

We also know that the efficiency of the auto-alarm apparatus is severely limited by a number of factors:

(1) It receives signals through a regular radio receiving circuit, and when there is a high level of atmospheric disturbance, known to the layman as static, the sensitivity of the autoalarm is affected for the worse. You gentlemen are used to modern home receivers, designed to receive strong, locally originated signals from broadcasting stations. In vast areas of the world, however, high static levels prevail a good deal of the time; in the tropics, for example, the radio officer listening with the perception of human hearing and intelligence, must detect signals against a background of noises that amounts to a steady roar. When that condition is encountered, when there is an unfavorable signal-to-noise ratio, the autoalarm will not be activated.

(2) The international autoalarm signal may be used only by vessels in actual distress situations, when they have already been overtaken by disaster at sea and are in danger of sinking. The only other time it may be used is when urgent cyclone messages are to be transmitted, and then only by a land station, known as a coastal marine radio station.

This amounts to a long-since-outmoded approach to the problem of safety which considers safety only in the sense of rescue, after danger has already befallen the vessel and its crew. A more sensible approach would be to consider also prevention. More lives are saved by preventive medicine and sanitary safeguards than by any miracle drug, and the same thing could very well be true in terms of preventing maritime disasters. For example, ships known to be heading into areas of danger from a known menace to navigation such as a floating mine, a derelict dangerous to navigation or sudden bad weather conditions could be alerted and rerouted around that danger.

This is only one form of preventive safety measure that could and should be applied, once the preoccupation with the outmoded conception of safety as being only rescue after the catasctrophe is discarded. Even the search and rescue aspect of safety—certainly not a minor one to the men whom disaster has overtaken, and it should be considered of great importance—could and should be greatly improved.

But the FCC, along with the entire maritime industry, has been content to stand pat on the old autoalarm system, for over a quarter of a century unimproved except in minor respects. Apparently the autoalarm is viewed as having served the purpose of staving off the clamor for a continuous human watch, and whether it operated well or badly, whether it plays a poor and passive part in providing safety, whether it has been improved at all in 30 years, in any respect, either as a piece of equipment or as a system does not receive consideration. Well, it is time for such consideration to be given to these questions, and this committee, in the improvements it can and should make in approving this bill, can play a worthy part to that end.

Passage of this bill would require the installation of an automatic radiotelegraph call selector on cargo vessels carrying only one radio officer. If this were al that were required, it would be a big step forward, but not enough. By facilitating and improving communications, by making them more selective and directive, there is an undoubted increase in the safety function of communications, for a number of reasons:

Specific ships known to be in the vicinity of a distressed vessel may be called directly by use of that vessel's own call sign;

During protracted distress traffic the single radio officer on a cargo vessel working traffic with the distressed vessel is assisted in responding to calls when in an exhausted state after continuously operating alone over a period of days;

Medical assistance and transfer of sick or injured at sea may be facilitated;

Promulgation of weather information may be facilitated and ships cautioned to avoid exposure to needless danger by receipt of such weather information;

Response of ships to lifeboats transmitter signals sent by survivors whose vessels may not stay afloat till rescuers reach them will increase the rescue possibilities of such survivors.

We could continue on with the list, but the most important fact is that with the new approach to safety, many more ways to improve safety by a preventative rather than a solely rescue approach would suggest themselves.

To provide greater safety through approaching the matter along the lines of preventative measures, we asked that changes be made in the provisions of the predecessor bill, H. R. 6004, that would increase the usefulness of the apparatus required by making it capable of being set manually to respond to all of the international signals that relate to safety signals that the autoalarm does not respond to:

(1) The international distress signal (SOS);
(2) The international safety signal (TTT);
(3) The international urgent signal (XXX);
(4) The ships call sign; and
(5) To provide a national defense feature of value, any other predetermined code that is desired for use in national emergencies.

This proposed unit has many dynamic wartime and peacetime uses. I do not think it pertinent to discuss whether this country is near war at this time. I hope not. Having gone through one war, I don't like even to think about another war, but our military experts have been advising us of such a possibility and two-thirds of the budget is devoted to national defense. We also know that anything that occurs in international affairs, of an unsettling nature, speed will be of prime importance. Major decisions may not be made in the first few minutes of any conflict, but all of our logistic resources must be knit together, capable of being alerted with rapidity, in such an event.

Now this proposed defense feature would make possible provision for an emergency call signal that can be manually set up. It could be changed or remain the same, whatever the military thinks is best.

At the outbreak of any such great national emergency, every American ship could be alerted. Prepared signals and rendezvous arrangements could be immediately effected. With this unit, radio communications that would reveal ship positions could be cut to a minimum. Convoys with secret signals could be set up, and ships in each of the convoys reached merely by use of the defense feature of this unit.

Some of the normal safety features of the unit, in the relative lapse of normal communications in such situations, could be available as well for defense communications needs. The radio officers, after the secret code signal had been received, could manually change the unit's responding system to respond only to another set of code letters the Government could assign to them. This would give an immediate systematic approach to the utilization of our merchant marine.

Of course, I have only suggested in general outlines and the most general terms what the possibilities are. Naturally, the details of such arrangements would necessarily not be at my disposal, nor do I suggest that the type of arrangements I have cited are precisely what should or would be arranged. I am simply indicating the sort of uses to which the defense feature of this device may be put.

Inclusion of all of these calls have been provided in this bill, and would constitute the first great step forward taken in marine safety through radio for a long time. Vessels whose auto alarms were not activated by the auto alarm signal would then stand a chance of responding to the transmission of the SOS signal, which is repeated constantly during all distress traffic, since it is used as an indicator to establish the priority of the messages being sent. The other calls are necessary to alert vessels in the vicinity prior to the transmission of messages that are of a safety character, but which do not originate from an already sinking ship. These other messages are of importance in preventing the worst situation from coming to pass.

The electronic age is upon us, and its fruits should enrich all spheres of our existence, every branch of our activities, all industries. They should not be denied the men who sail the ships, certainly not because other countries are dragging their feet, certainly not because they might cost a few dimes a day, certainly not because we have an auto alarm that is as inadequate and unreliable in its old age as it was in its youth.

Nor should we permit the fact that the international radio standards now require only an autoalarm to nail us down to that low level. The United States Navy

does not even use autoalarms to any appreciable degree, if at all, but prefers to have its vessels of comparable size to most merchant ships (1,600 tons or over) stand a continuous human watch. What is more, the Navy is not sitting on its hands with respect to electronic progress, but continues to install more modern electronic apparatus abroad its vessels.

After all, as our fourth arm of defense, the United States merchant marine rounds out the seapower of the United States, carrying military supplies to support our military forces wherever they may be; during wartime, United States merchant marine tankers are used to supply petroleum needs of naval task forces. During World War II merchant vessels had 3 radio officers placed aboard them; this, in itself, was an implicit admission that the communications provisions aboard United States merchant vessels is inadequate; why then should we be held down to simply 1 radio officer and autoalarm? Certainly the few dimes a day that any piece of equipment costs is not a reasonable argument, because who can measure the financial value of human lives—can anyone, for that matter, place a financial value on even one single human life?

It is true that American ships, at first, would be the only ones to have this apparatus required aboard. That would simply mean that American ships and American seamen would be the first ones to benefit from them, for in the nature of this equipment other ships do not have to have them aboard for our vessels, equipped with such an apparatus, to gain. The unit would respond to signals transmitted by the equipment carried by all vessels, simple Morse code characters grouped together as the ship's call letters or the other safety signals mentioned above. The absence of this unit aboard foreign ships would not prevent American ships from serving as links in a radio network of ships that means the difference between life and death for seamen and passengers.

The argument against such a requirement because ships of other nations would not at first have a piece of equipment such as this one is indicative of the unprogressive approach that we referred to early in our statement. America has always played a leading part in blazing new technological frontiers, and has never been satisfied to trail behind the standards of countries with lower technical and economic levels. With such a backward approach, we would not now have the high standards many of which were first initiated aboard American ships; for that matter, we would not have the many other things that only we in America have and enjoy, to the envy of the world.

Such a backward approach has been embodied in the "standpat on the autoalarm" approach of the FCC, these many years. Now, the FCC, in its comments filed with this committee on March 17, 1955, indicates that, and I quote,

"Assuming the bill became law, it would be expected that a complete system evaluation by technical experts of Government and industry would be made in establishing suitable detailed requirements to give the legislation proper force and effect * * *" (p. 4).

This looks like a step forward from the previous negative attitude embodied in the Commission's comments on the predecessor bill, H. R. 6004. However, we note that the FCC, as a sinner returned to the cause of technical progress, rushes directly to the pulpit, without pausing awhile at the sinner's bench. In abandoning the stand that nothing must be done, they now ask for more than is frankly necessary. I refer to the fact that the FCC further states that they would "look toward the compulsory installation of automatic devices to transmit the five signals in coast telegraph station and ship stations."

There are times when it is difficult to understand the FCC, and this is one of them. Here you have a device that is designed to respond to a wide variety of signals, sent at a wide range of sending speed, with allowance made for variations in the formation of Morse code characters. The FCC tests a development model of the unit, that has been prepared to demonstrate that it can perform five functions well on an extension of the same principles on which it performs one function. It then takes the position that if the unit is to be used, another piece of equipment must be installed to utilize it, in the perfect state, with no margin for error, variation, or deviation. But there are no perfect devices, not anywhere.

In a recently declassified progress report on reliability of electronic equipment, the Department of Defense Research and Development Board notes, right on page 1, that "A study made in 1950 showed that only 33 percent of Navy electronic equipment was operating satisfactorily, and later reports indicated that the situation was getting worse."

Now, what is the FCC seeking in suggesting it would be necessary to add another piece of compulsory equipment, ostensibly to activate this unit? Is it seeking to imply that this call selector responds only to perfect signals too perfect

to be made by humans? That is not the experience of users, as reported in a number of sources. Is the FCC seeking to kill this legislation with kindness, so to speak, by creating the strawman that requiring this device will result in the necessity to require another device to operate it, suggesting thereby an endless chain of such devices, each required to activate the previous one? That is absurd. I am certain that the committee will reject this notion of the FCC, and embody its rejection in its report on the bill. For, logically pursued, this idea which means that only the perfection of a machine is acceptable for operating another machine, would result in barring human beings from operating motorcars or power tools.

There is no doubt that following the sea for a living is not an easy existence; seamen pursue a hazardous occupation. We cannot complain when the wind blows a hurricane, but we certainly want the best chance of our particular ship avoiding that hurricane, if it can be rerouted, and we certainly want the best chance of survival if that hurricane pounds to pieces the ship on which we are working. We do not think that improving ship radio safety through requiring this improvement of ship radio installations is an extravagance. But we do know from experience that the maritime industry is slow to adopt new methods, and is frankly loath to put new equipment aboard no matter how little it costs.

A case in point is what happened to the lifeboat radio transmitters that were placed aboard United States merchant ships during World War II by order of the United States Navy. At the end of the hostilities, when the Navy relinquished control of the merchant marine, the requirement that they be aboard expired. The shipowners did not even have to buy these units, they were already aboard their ships—they were theirs, free for the keeping. Yet we witnessed the obscene spectacle of their hasty removal from the ships. Why? To save the cost of their maintenance and repair, an amount that was so minute it is amazing. There were numerous vessels lost, and many men who perished in open lifeboats in stormy seas before they could be rescued might be walking the earth today had they been able to direct rescuers to their lifeboats sooner by means of this equipment that was cruelly ripped off the ships. Only a little more than a year ago did the lifeboat transmitters begin coming back aboard the ships again, where they are now required by Government regulation, but the lesson of that experience stays with us; the maritime industry cannot be relied upon to do anything, provide any new equipment, unless it is a Government requirement. That is why we appear before your committee. The rest is up to your committee.

Mr. STRICHARTZ. I would like to read the statement as I have rewritten it, and where it is necessary to add material I would like to interpolate that. I do not think it will take too long.

Mr. HARRIS. Very well. You may proceed.

Mr. STRICHARTZ. My name is Morris Harvey Strichartz. I am the technical director of the American Radio Association, CIO, the members of which are radio officers aboard United States merchant ships. The ARA–CIO has collective bargaining agreement with almost 75 percent of the United States flag merchant ship operating companies operating every type of vessel—passenger ships, freighters, tankers, and colliers—out of the Atlantic, Pacific, and Gulf of Mexico coast ports. This statement is made on behalf of the CIO Maritime Committee, of which the American Radio Association is a member.

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To increase the efficiency of communications so as better to provide for the national defense as well as safety of life and property at sea,

we went on record in favor of this bill's predecessor, H. R. 6004, and suggested certain improvements and safeguards.

First of all, on the safeguards, because that bill provided compulsory installation of a particular piece of equipment, we asked, at the outset, that it have written into it safeguards against establishing a monopoly for any one piece of apparatus, the holder of any one patent or set of patents, or any one radio equipment company which might hold such patents and manufacture such equipment. The committee concurred, and as reported favorably, the bill had added to it, the requirement that patents for such equipment as is type-approved by the FCC for compulsory installation to meet the requirement of this bill must be made generally available through fair and reasonable arrangements for licensing of patents to such equipment. The present bill keeps this identical safeguard in section 4. This, of course, we urge be kept.

Without burdening the record on the technical side, one great truth must be stated about ship radio equipment and that is that about the only thing that can be said for modern marine-radio apparatus is that it is built rugged enough to take the impact of the mechanical shock it receives in rough seas, this and not much more. Why? Partly because that Government agency charged with the responsibility of regulating to foster advance, the Federal Communications Commission has adopted what must be described as a stick-in-the-mud approach to the problem of fostering advancement of the marine-radio art. Their completely negative attitudes toward the predecessor bill as well as toward this bill, as embodied originally in their comments filed with this committee, are typical.

This is not to say that the Federal Communications Commission has not done a worthy job of administering the law. It has enforced the marine provisions of the Communications Act, in its numerous ramifications, worthily. We have had our differences with the Commission on some matters, and we have sided with the FCC on other dockets, but in general, we have no cause to complain that the FCC is not enforcing the law well, because we believe it definitely is, to the best of its ability and resources.

We would like to take this occasion to underscore the fact that those resources are limited. The fact that the FCC's ability to enforce the law is limited by a lack of personnel, which in turn is a direct result of the limits on their appropriations. We certainly think that the FCC has a duty under the act to make regular inspections of the ship radio stations to ascertain whether they are living up to the requirements of the law. We certainly feel that this is necessary and we think that they should have the means to do it and we know that they do not have the means to do it now. We know that the standards that were previously lived up to of quarterly ship inspections have all but gone by the board. The FCC makes annual inspections of ship stations, but has not been able to make semiannual, let alone quarterly, inspections, and this is necessary.

In the original act, Public Law 97 of the, I believe 34th Congress—I will supply the Congress with that reference. The Commission was directed to enforce the law by this type of inspection program. However, enforcing the law and administering the law is one thing. It may be that it is asking too much of a regulatory body that it under-

take to sponsor, foster, and stimulate technical advancement. Perhaps that is a function that the Congress cannot delegate, but must continually interest itself in, especially against the background of so sluggish a field as the maritime industry which frankly has not applied much stimulus for progress to the FCC, far from it. The maritime industry is heavily burdened with age-old traditions making change very slow. The seas and the tides, the winds and the currents haven't changed much since Noah sailed the Ark, but neither has the maritime industry. Where maritime radio is concerned, the FCC seems to have accommodated itself to the same lack of drive for advancement that is common to the maritime industry. That is apparently the only explanation for the negative stand the FCC has taken toward this bill. By way of providing background for this discussion, let me sketch briefly what the communications provisions aboard the ships are at present.

I will not go into them because I think they have been amply discussed. The important thing, though, is that there is on all but 40 of the United States flag vessels, only 1 radio officer who stands an 8-hour watch; 16 hours of the day there is no one on watch. During distress the distress signals are sent. If the radio officer is off watch, what happens? What about the ships with only 1 radio officer, who are the vast majority of ships, something like 1,180 out of 1,220 vessels flying the American flag. The radio officer has completed his 8 hours when the distress message is sent. This is a problem. It has been a problem for some time. The first time it was brutally underscored was when the *Titanic* disaster—in 1912, I believe—when hundreds of people who might have been saved, lost their lives because the radio operator on the steamship *California*, I believe, just beyond the visual horizon, within easy reach of the radio equipment of that day, had just gone off watch at midnight after a 12-hour trip. What happened? The ship's calls sent shortly after midnight were not heard. The world was shocked and there was a lot of discussion and there was a tremendous amount of pressure for a continuous human radio watch. The men who go to sea, not just the radio officers, but all men who make their living at sea, feel that safety devices are not an extravagance, and not an economic burden. There is a human burden to going to sea. We take it on ourselves voluntarily. We do feel that there are some things that we are entitled to. We have felt, frankly, that to adequately provide for this eventuality a continuous human watch should be maintained by at least three radio officers. That is the practice aboard naval vessels of corresponding type tonnage and manning scale but that approach was rejected in the maritime industry about a quarter of a century ago when a substitute, a device known as the autoalarm, was brought to the fore.

There has been much testimony on the autoalarm and there are many misconceptions of it. Briefly, the autoalarm is a unit which is supposed to receive and respond to and actuate bells when the international alarm signal is sent. I think it is perfectly clear that that is not an S O S, but a series of dashes 4 seconds long, spaced 1 second apart. Twelve are supposed to be transmitted. Any four are supposed to actuate the circuit and ring bells in the radio officer's quarters on the navigating bridge of the vessel and in the radio room so that the radio officer may be summoned to the radio room to

respond to the distress message which, under international regulations, is supposed to be sent 2 minutes after the autoalarm signal is sent.

Now, I stated all the procedures as hypothetical ones, not only because there is not always the 2 minutes' time, some vessels have gone down and gone down fast, but also because there are many other things that make these procedures hypothetical. We know that the efficiency of autoalarm apparatus and system is severely limited by a number of factors. A number of these factors are similar to the limitations that have been cited with regard to the device that this legislation covers. I would almost boil the thing down to this, that any limitation that has been cited relative to this device can equally be applied to the autoalarm. The difference seems to be that the autoalarm responds to one signal firmly, inflexibly, a signal which cannot be used at all times and under all circumstances, which cannot be used preventively, but can only be used after disaster has overtaken a vessel, or the peril is so imminent that a master must send a distress message while the device that this legislation is about can be used in five different ways.

Now, we know technically that the autoalarm is a regular radio receiving circuit when there is a high level of atmospheric disturbances, known to the layman as static, the sensitivity of the autoalarm is affected for the worse.

You gentlemen are used to modern home receivers, designed to receive strong, locally originated signals from broadcasting stations. In vast areas of the world, however, high static levels prevail a good deal of the time; in the tropics, for example, the Gulf of Mexico, the Caribbean, Indian Ocean, any of the mid-Atlantic areas, during the summer especially, the radio officer listening with the perception of human hearing and intelligence, must detect signals against a background of noises that amounts to a steady roar. I have come back on watch after lunch and turned on my receiver and I have heard what sounds like the roar of Niagara Falls. When that condition is encountered, when there is an unfavorable signal-to-noise ratio, the autoalarm will not be activated because its sensitivity must be lowered, usually below the threshhold of signal reception. The ship can send its orginal autoalarm signal and its distress message in vain under those circumstances. It will not activate the other autoalarms; it will not alert the other ships; it will not summon the lifeboats and rescuers to the aid of that vessel.

Secondly, and this is a big operational drawback of the autoalarm, it may only be used by vessels that are in actual distress, that have already been overtaken by disaster and in danger of destruction. The only other time it may be used in international law is when urgent cyclone messages are to be transmitted and then only by a land station, known as a coastal marine radio station.

This amounts to a long-since-outmoded approach to the problem of safety which considers safety only in the sense of rescue, after danger has already befallen the vessel and its crew. A more sensible approach would be to consider also prevention. We know the most recent example is the Salk vaccine; that preventive medicine and sanitary safeguards are preferred and save more lives than any mircale drug could. The same thing could be true in terms of preventing maritime disasters.

For example, ships known to be heading into areas of danger from a known menace to navigation such as a floating mine, a derelict dangerous to navigation or sudden bad weather conditions could be alerted and rerouted around that danger. That is certainly preventive safety which the autoalarm cannot participate in, which the autoalarm has no place in. This legislation proposes to apply to safety the modern conception of prevention by providing all of the flexibility that the various signals provide.

Now, points have been made, little bits of carping criticism have been made, on the application of this or that signal being inappropriate, being burdensome. We are certain that the FCC will sit down with us as well as with the rest of the industry and we can all work out rules and regulations to put into effect the apparatus as a safety device. This is only one form of preventive safety that could and should be applied once the preoccupation with the outmoded safety, such as rescue or catastrophe, is discarded. But even the search and rescue act of safety, which is not a minor one, could and should be greatly improved. But the FCC, dawdling along with the rest of the maritime industry, has been content to stand pat on the old autoalarm system for over a quarter of a century, unimproved except in minor respects.

It is true that they can work up ways of making the sensitivity setting vary according to the background of noise. They can work up ways of doing electronically certain things that are done by relays, but as a piece of apparatus, as a basic system, it is unimproved for a quarter of a century, and the FCC is here taking its same pat position on the autoalarm system. We have not said to throw it out, throw it away, we have said, "Let us go on, let us go further, let us have more and much more, and let us not use something which is in existence to block further progress." Well, it is time for such consideration to be given these questions and only the committee can do that. By passage of this type of legislation and by its being implemented by standards set in conferences in the industry, communications for safety and for defense. By facilitating and improving communications, by making them more selective and directive, there is an undoubted increase in the safety functions of communications.

Specific ships known to be in the vicinity of a distressed vessel may be called directly by use of that vessel's own call sign.

During protracted distress traffic the single radio officer on a cargo vessel working traffic with the distressed vessel is assisted in responding to calls when in an exhausted state after continuously operating alone over a period of days.

Medical assistance and transfer of sick or injured at sea may be facilitated.

Promulgation of weather information may be facilitated and ships cautioned to avoid exposure to needless danger by receipt of such weather information.

Response of ships to lifeboats transmitter signals sent by survivors whose vessels may not stay afloat till rescuers reach them will increase the rescue possibilities of such survivors.

We could continue on with the list, but the most important fact is that with a modern approach to safety, many more ways to improve safety in this preventive sense would suggest themselves.

To provide greater safety, we with the party who at the last session of Congress came into the hearings and asked that the apparatus be

made capable of being set manually to respond to all of the other signals, including a national defense feature of value in these unsettled times. Our suggestions have been embodied in this bill and this proposed unit consequently has many dynamic wartime and peacetime uses. It is not pertinent to discuss whether the country is near or far from war, but there are some things that are true. Anything that occurs in international affairs today, speed is of the essence. In the first few minutes of any conflict all our logistic resources must be knit together, capability of being alerted with rapidity in such an event.

Now this proposed defense feature would make possible provision for an emergency call signal that can be manually set up. It could be changed or remain the same, whatever the military thinks is best. The military in this case is involved, and Congressman O'Hara, at the last session, was under the impression that the provisions of this bill have no pertinence for the Navy. Now I would like respectfully to submit that in any wartime emergency the Navy takes over communications. I spent some 5 years aboard the ships during the last war, aboard merchant ships under the control of the Navy in every respect where communications were concerned.

Mr. O'HARA. You missed my point which I made, that the Navy was not interested in installing this on Navy ships.

Mr. STRICHARTZ. The Navy has anywhere from 3 to 14 radio operators of various ratings aboard their ships, so there hardly seems to be a need. In terms of having available in an emergency the means for knitting the merchant ships together, this defense feature is a factor that must be considered and apparently the Navy, which is concerned with the defense of merchant shipping, is the military arm that would use this feature.

At the outbreak of any great national emergency, any ship could be alerted. Ship costs could be put to a minimum. Convoys with secret signals could be set up and any ship, or group of ships, in any of the convoys reached merely by the defense feature of this unit. We know that some of the normal safety features in the unit, in the relative lapse of normal communications in such wartime situations, would also be available for defense communications needs. We know that these secret codes can be changed. Flexibility is provided in the nature of equipment and the nature of the bill so that the ship's safe can contain a series of predetermined secret codes which would be put into the device one after the other and that section of the device sealed against intruders.

At the hearing on the 21st of March, Congressman Wolverton raised the question of whether this device might not involve a danger to the jobs of radio officers. Well, we have looked at the whole thing. We know that there are only 40 ships that have more than 1 radio officer. We know that they have a full complement of duties in addition to the routine communications that are conducted, such as weather, navigational, press material. We are not concerned with that aspect of the thing, but we have heard of the automation quite a good deal recently and here is an example of how automation can be brought aboard the ships and the fruits of this material be made to enrich the lives, to prolong the lives, of the men who sail the ships for a living. We do not feel that it should be kept off the ships.

Reference has been made to the fact that the United States Navy does not have an autoalarm. We would like to point out that the

Navy is not sitting on its hands relative to electronics, as the maritime industry is. Thus, from 1937 to 1952 the average naval vessel has gone in electronic equipment from devices which have something like 60 tubes, 60 vacuum tubes, and the vacuum tube, more or less, indicates the complexity of electronic equipment, have gone from 60 to 3,200 tubes. In other words, from 1 to 14 technicians on a destroyer. This is not the big battle wagons. We think that the merchant marine is a defense resource and we think that the defense feature of this bill certainly should be given some thought.

I think the Commissioner gave very clear answer to the question whether foreign vessels would actuate this device, would give it value for American ships in the absence of it being aboard foreign vessels. But I would like to make this point and that is that the FCC in the course of these hearings has altered its original adamant stand against the device. In so doing, they have said that they will call experts of Government and industry, all of the parties together. This looks like a step forward. However, they raise a question which cannot be ignored when on page 4 of their statement they say that they would—

look toward the compulsory installation of automatic devices to transmit the five signals in coastal stations and ship stations.

There are times when it is difficult to understand what the FCC means, and this is one of them. You have a device designed to respond to a wide variety of signals before you. It is capable of being engineered to respond to a wide range of sending speeds and to living up to the criteria established in the case of the autoalarm. There is no question but that the engineering considerations can be met. However, the FCC has taken the stand that they have to put another device on the vessels to actuate this one. I think that the committee should clearly separate themselves from that position. It is one thing to set standards, but it is another thing to keep putting on other devices to actuate the previous one, because you can have a whole series of them. There is no such thing as a perfect device. I think nobody will argue with that.

I have cited in my prepared statement the fact that in 1950 only 33 percent of naval electronic equipment was operating satisfactorily and that the situation was getting worse. In the light of that, certainly nobody can insist that there be perfect electronic standards. They must be set as high as possible, but you cannot put a yardstick of perfection to this problem. The reason I underscored this is because I sat through a good deal of the 3 solid years of hearings that the FCC conducted on a minor phase of radar rules, radar licensing rules, and on those standards we could spend 10 years of hearings. I am certain that the committee and the Congress, if it passes such legislation, will not be interested in the application of this legislation being deferred for 10 years of hearings.

One point cannot be ignored and it is extremely important.

Mr. HARRIS. May I inquire how much longer it will take? We are running short of time.

Mr. STRICHARTZ. This is my last point and it is extremely important, and that is the point that Congress must make the decision. Commissioner Webster naturally is busy with all phases of Commission business and possibly is not aware of the specialized field of marine radio and the things that have happened in it recently. It is

to the FCC's credit that they refused the last shipowner request to lower standards. I do not doubt that Commissioner Webster is not aware of this, but exactly what happened was this: The passenger ship companies came under the requirement that they put aboard their passenger vessels these lifeboat transmitters of a fixed and nonportable nature. They went to the FCC and asked to be released from that requirement. They were refused. They then went to the Coast Guard and got released from that requirement. Now, there is a case in point of just what I am talking about. Unless the Congress sets the standards and insists that they be lived up to, the shipowners will always come in, look for a loophole, look to widen that loophole, and look to evade the standards and lower them.

We cited the case of the lifeboat transmitter that had been removed from the vessels and this was the important thing that the considertion for which they were removed was trifling, and yet these people place so much importance on the cost of safety devices that they opposed them. They had these transmitters aboard the vessels free and they ripped them off, pulled them off. I think that that was an experience that was brutal. They pulled them off because they wanted to save a few dimes in maintenance.

Mr. HARRIS. Mr. Strichartz, I know that you could refer to many things about this, but the Chair respectfully is going to have to ask that this part of your statement come to an end because you have been going 50 minutes. Of course, you can supplement the statement in any way you care to. After all, you are interested in the bill and I am trying to get the hearings completed.

Mr. STRICHARTZ. Thank you for the time you have given me.

Mr. HARRIS. Some of the committee members had questions they wanted to ask.

Mr. O'Hara?

Mr. O'HARA. You would not criticize the Commission for being careful on the technical tests, which are made on any proposed equipment, would you?

Mr. STRICHARTZ. We would not, sir.

Mr. O'HARA. Do you in any way doubt the accuracy of the testimony of Mr. Webster's illustration of what the tests showed on this instrument?

Mr. STRICHARTZ. I am not entirely certain that Commodore Webster testified on the technical tests. I read the test results. I assume they have been placed in the record and I can supply a technical statement on it. I am certain you are in a hurry.

Mr. O'HARA. Let me ask you this: Do you think where the test showed that on the 500 kilocycles that the efficiency rating is from 46 percent, the urgency signal, the 92.5, that it is the type of instrument you feel should pass the approval of the Commission?

Mr. STRICHARTZ. Well, I saw the device that they sent down to be tested, and that was by no means a device that anybody would contemplate putting aboard a vessel. It was simply a prototype.

Mr. O'HARA. The Commission is not to be blamed for that, are they?

Mr. STRICHARTZ. No, sir. I do not think they sent it down for approval. I think it was sent down to demonstrate that the device had apparently been doing a decent job in 1 function and could be

made to operate on 5 functions. Of course, there is more engineering that would be necessary and there is provision in the bill for an 18-month delay of application for that reason.

Mr. O'HARA. But no provision for final approval by the Federal Communications Commission, is there?

Mr. STRICHARTZ. I believe there is provision for final approval.

Mr. O'HARA. You find it for me and let me know.

Mr. STRICHARTZ. I have it right here, sir, and it says explicitly—

This act shall take effect on the expiration of 18 months (or such shorter period as the Commission shall determine) after the Federal Communications Commission has found that—

(1) an automatic radiotelegraph call selector (as defined in section 3 (hh) of the Federal Communications Act of 1934, as amended by this act) is and will continue to be available, and may be installed, at a reasonable cost to shipowners—

and so forth.

Mr. O'HARA. It does not say a word about efficiency of that call selector?

Mr. STRICHARTZ. Elsewhere in the act there is provision for the FCC to make approval tests and to grant or withhold such approval.

Mr. O'HARA. But under the langauge of this bill, there would be nothing to prevent its being installed, regardless of its efficiency?

Mr. STRICHARTZ. I would not agree with that. Under this language, if the Commission does not find that there is such a selector that will perform the functions as defined by certain standards that exist I think that the Commission would not make such a finding and you would have no requirement until they made such a finding.

Mr. O'HARA. Would it not be just as well to wait a little while and see what perfection can be made upon this instrument, instead of legislating before we know what can be done by it in the way of efficiency.

Mr. STRICHARTZ. The FCC is standing pat in saying that we have what we call a perfect system and we have heard people say, "Wait, wait, wait," but the process of corpses continues. I keep seeing men in New York, the biggest port in the country, whom I never see again. Aboard the steamship *Moordabkite*, aboard the steamship *Southern District*, only in the last few months, I might say. These are men who are not walking the earth today. I think that any counsel to wait, I could not go along with.

Mr. O'HARA. Well, I cannot approach it with the same enthusiasm you do to legislate on some uncertainty and make this compulsory before we know whether it is going to be approved. I cannot understand that. I do not want to get into any long argument with you on it.

Now, what is the situation when a false alarm comes in? The radio operator responds to it and it is a false alarm. Does he get paid additional after he has earned his 8 hours? Does he get paid additional for that?

Mr. STRICHARTZ. The radio officer does not get paid for a true alarm. The radio officer gets paid for a false alarm. Before it is determined to be a false alarm, he goes on watch, listens on 500 for the condition that a true alarm would have caused.

Mr. O'HARA. Well, if these tests showed that 68 false alarms in 538 hours of operation occurred, that would be a little more than a month's time at 16 hours per day, would it not?

Mr. STRICHARTZ. I saw the test and the biggest single factor there was the signal KEEE. Commissioner Webster has pointed to the high true response on the signals with dashes. We would like to point out the high false response at the other side of the spectrum to the signals with many dots. K is dash dot dash, and then dot dot dot. Dots can be simulated by bursts of static and there are not too many signals like either of those extremes. It is assumed that if you took the 40 false alarms from being triple E out of that chart, the entire picture would be changed considerably. As I have stated before, I could give you a lengthy discussion of those tests, but if you desire, it can be filed in writing.

Mr. O'HARA. Well, it would be true that the more inefficient the equipment the more false alarms there would be, is that not true?

Mr. STRICHARTZ. Well, that could be one factor that could cause many false alarms.

Mr. O'HARA. That is all, Mr. Chairman.

Mr. HARRIS. Mr. Mack?

Mr. MACK. Mr. Chairman, I had some questions, but I hesitate to take the time.

Mr. HARRIS. Mr. Hale?

Mr. HALE. Mr. Strichartz, are you a seafaring man yourself?

Mr. STRICHARTZ. I have been. I have some 6 years' seafaring from 1941 to 1946.

Mr. HALE. You devote a large portion of your statement to abusing the FCC whom you characterize as "standing pat." In examining this statement of Mr. Webster's, I would not characterize his attitude as a "standpat" attitude. He says, in summarizing his testimony, that it is not a very reliable device, as I understand his testimony. That is not exactly a "standpat" attitude, is it?

Mr. STRICHARTZ. I read the statements of the FCC. First of all, I would like to underscore that I do not abuse the FCC because we consider it a tremendous shield. I do not think that I am the best man to summarize Commissioner Webster's testimony, but Congressman O'Hara yesterday summarized it this way, that Commissioner Webster does not oppose this type of legislation, would not oppose this type of device, but feels that the particular units that they got to test did not meet the high standards and high standards were necessary, and the unit could be modified to meet those high standards. Now, I made the point later in my statement of differentiating between the original attitude of the FCC and their later one. But, generally speaking, the FCC has adopted the attitude of the maritime industry on this question of standpat on the autoalarm. That, I do not consider an abuse, but a simple statement of fact.

Mr. HALE. I think it unprofitable to argue with you further.

Mr. HARRIS. Thank you very much, Mr. Strichartz. We are glad to have your statement.

Mr. STRICHARTZ. Thank you, Mr. Chairman.

Mr. HARRIS. I believe you have some additionl information you will supply for the record?

Mr. STRICHARTZ. After I have seen the record I can file a statement in writing, can I not?

Mr. HARRIS. You may have that privilege.

Mr. STRICHARTZ. Thank you, sir.

Mr. HARRIS. Mr. Edward Phillips?

Mr. PHILLIPS. I would like to have at least 15 minutes to go through the material. Most of our material is in statements which we are going to submit. We have tremendous interest in this bill, 7 steamship representatives came down here today expecting that we would be going on. We are in that spot.

Mr. HARRIS. Well, I appreciate that position and I was asking you because it is noted here that you live in New York. The others are representatives here in Washington and we do not mind inconveniencing them as much as we do you people.

Mr. PHILLIPS. Let me straighten you out on that, sir. I have offices both in New York and Washington. It was Mr. Baker who was to come down from New York. I can handle the thing from Washington at any time to meet the committee's convenience.

Mr. HARRIS. Are you in Washington?

Mr. PHILLIPS. Most of the time, yes, sir.

Mr. HARRIS. May I ask Mr. Haddad if he is in the room?

Mr. HADDAD. I do not have any testimony. It was incorporated into other testimony.

Mr. HARRIS. I just noted here that you have no written statement and I assume you just wanted your appearance to be noted?

Mr. HADDAD. I was going to if the point arose where I could help clarify any issue in one of the statements, I was going to be called upon; that is why the name was perhaps included in the record, or in the possible witnesses.

Mr. HARRIS. With whom are you appearing here?

Mr. HADDAD. I am a radio operator and they felt that perhaps some of my experience recently would help clarify some of the points that came up.

Mr. HARRIS. Are you here with Mr. Strichartz?

Mr. HADDAD. Yes.

Mr. HARRIS. Then you do not care to have any further statement?

Mr. HADDAD. Not unless the committee wants it.

Mr. HARRIS. I appreciate that.

Well, in view of the situation facing the committee, we have three other witnesses noted here and obviously we cannot get to them today. So the committee will stand adjourned subject to the call of the Chair at some date in the future. They are all Washington witnesses and you will be notified in plenty of time in order that you can have your say.

May I inquire, is there anyone who is not in Washington?

Mr. PHILLIPS. I wanted to say, Mr. Chairman, as I said 2 days ago here, that we had thought that the committee might want to question the radio supervisor of the Moore-McCormack lines, who has material in the record and we have been bringing him down from New York for this purpose. I wanted to make that clear.

Mr. HARRIS. Does he have a statement today?

Mr. PHILLIPS. No; we are making him available for the questioning, so we wanted enough time to be able to notify him in New York.

Mr. HARRIS. We will endeavor to give sufficient notice in order that he can appear.

The Chair submits a telegram for the record addressed to the committee from the American Tramp Shipowners Association, James B. Stuart, president.

(The telegram referred to follows:)

WASHINGTON, D. C., *March 21, 1955.*

CHAIRMAN,
Committee Interstate, and Foreign Commerce,
House of Representatives:

The American Tramp Shipowners Association wishes to record its objection to the passage of H. R. 4090 on the same ground as will be set forth in the statement to be made before your committee by the American Merchant Marine Institute. We feel that the proposed legislation would impose an arduous requirement on American shipping which is unnecessary from the standpoint of safety, efficiency, or sound operation.

AMERICAN TRAMP SHIPOWNERS ASSOCIATION,
JAMES B. STUART, *President.*

Mr. HARRIS. At this point in the record, we will insert the correspondence and other material from the Brelco Electronics Corp.

(The information referred to follows:)

BRELCO ELECTRONICS CORP.,
New York 13, N. Y., May 2, 1955.

Re H. R. 4090.

Hon. OREN HARRIS,
Chairman, Subcommittee on Transportation and Communications of the Com-mittee on Interstate and Foreign Commerce, House of Representatives, Washington, D. C.

HONORABLE SIR: At the hearing held on March 21, 1955, before your subcommittee on the above numbered bill, a witness appearing on our behalf in support of the proposed legislation was requested to furnish further data and information with respect to our corporate affairs.

We were organized under the laws of the State of New York in September 1946, as a successor corporation to Brelco Corp., which was formed in New York in or about April 1943. Thus, this corporation and its predecessor have been engaged in business continuously for approximately 12 years. That business has been the manufacture of electronic equipment primarily for use in the marine communication field and the sale of that equipment to Government agencies, as well as to private industry. A catalog of the products manufactured and sold by us is herewith transmitted.

Our principal product has been an automatic radiotelegraph selector known as a ships call alarm, which with modifications, will comply with the proposed legislation. This ships call alarm, with the single response to a ships call letters only, has been purchased and used by Government agencies in the past years after exhaustive, lengthy, and independent tests conducted separately by each interested agency. Thus, the United States Maritime Commission originally purchased 9 units for experimental installation and testing, and after testing, purchased a total of 108 units. Similarly, United States Coast Guard made an original purchase of a few units, and after a year's test and use of the original few, purchased a total of 66 units. In addition, units were sold to private commercial users.

This ship's call alarm was developed and commercially perfected by this corporation and its predecessor. It is manufactured and sold exclusively by us at the present time under letters patent issued by the United States Patent Office and owned by us.

To negate any inference, direct or implied, that the ownership of this patent by us is somehow tainted, the following brief statement of facts relating thereto is made:

Walter W. McGoffin, the inventor, was employed by this corporation and its predecessor from about 1944 to the middle of 1949. While so employed, and while using our plant, equipment, and facilities in experimentation and research, he, together with our other employees working in conjunction with him, developed the ship call alarm.

By agreement dated the 1st day of November 1945, said Walter W. McGoffin granted an exclusive license under a royalty agreement to his then employer Brelco Corp. to manufacture and sell the ship's call alarm. On that same date, an application for letters patent was filed.

On August 10, 1948, letters patent on this device were issued to said McGoffin and one S. S. Baker by the United States Patent Office under patent No. 2,446,993.

By agreement dated November 10, 1948, a copy of which is hereto annexed, a further royalty licensing agreement was executed among McGoffin, Baker, and

this corporation granting us the sole and exclusive sell right to manufacture and this device.

On or about March 6, 1951, we acquired outright title to this patent by purchase and assignment from McGoffin and Baker. This assignment was duly recorded on March 23, 1951, in liber 227 page 490 at the United States Patent Office. Our ownership of this patent has never been questioned since that date. Simultaneously, Messrs. McGoffin and Baker executed and delivered to us general releases acknowledging that they had no claims against the corporation except for the moneys to be paid to them over a period of time in consideration of said sale and assignment.

Mr. McGoffin's employment with this corporation was solely and exclusively one where he devoted his full time and efforts to perfecting and working on this device. This he did in conjunction with other of our employees with the use of our plant, facilities, and equipment. Such cost of research and development to us ran into many tens of thousands of dollars.

In addition, the following sums of money were actually paid by us directly to the inventor:

Salary 1944–49	$18, 897. 00
Royalties	9, 484. 55
Patent purchase price	7, 640. 00
Total	36, 021. 55

The total patent purchase price was $8,000, of which the above sum of $7,640 was paid to the inventor.

Thus, it is submitted that any inference that this patent acquisition was colorable is contrary to the facts. Actually, the development and ownership of this patent and a commercially perfected device thereunder was at a cost to us in excess of $100,000.

We share factory and office space with Federal Television Corp. at 139 Duane Street, New York City, This space consists of 30,000 square feet where the device can be manufactured. Photographs of this plant are forwarded herewith. Approximately 200 to 250 skilled employees who are present at this plant are available for employment in the manufacture of the device proposed by the legislation. All of the machinery, tools, dies, testing equipment used by us in the manufacture of upward of 300 of the original units are located at this plant. In addition, we have in inventory approximately 110 completed single response units, that with modification, may be used in compliance with the proposed legislation. Also, we have on hand the tools, dies, blueprints, components and other spare parts required for the manufacture of this device.

It is our manufacturing estimate that shortly after type approval of the device has been obtained from the Federal Communications Commission, approximately 40 to 50 units per week could be completed by us.

The attention of the subcommittee is also directed to the fact that both Radio Marine Corporation of America and Mackay, each with worldwide facilities and offices, presently service and maintain our equipment. Unquestionably, a similar service would be offered by them for the proposed modified equipment. Westrex Corp., a subsidiary of Western Electric Co. Inc., acts as our sales agency for that territory outside of continental United States.

The sense of moral responsibility of this corporation may be gleamed from the following episode of our business history. In or about 1951, the United States Maritime Administration ordered from us 30 ships call alarms, fully specified and described in the awarded contract. We were ready and prepared to make almost immediate delivery to that agency in complete compliance with the contract. Our attention was called to a regulation just then promulgated by FCC requiring that radio equipment on board ship must meet certain nonradiating standards.

We voluntarily tested our equipment under this contract and found that the then model did not meet these nonradiating standards. Delivery to the Maritime Administration was halted. A unit was modified to meet with this nonradiating requirement. This modified unit was then delivered to FCC for its testing and approval, which was obtained. This process of modification, testing and approval was both time-consuming and of great expense to us. We then modified the 30 units to be sent to Maritime Administration and these were delivered without a single penny of additional cost to the Government.

Our only regret with respect to all of the foregoing is that after the expenditure of all those moneys and the time of many months in completing this modification,

the FCC shortly thereafter abrogated and canceled the regulation providing for low radiation, making all of our efforts meaningless.

We shall be happy to furnish any further or additional data that may be requested.

Respectfully submitted.

BENJAMIN B. GREEN. *President.*

THIS AGREEMENT made in the city of New York, State of New York, on the 22d day of November 1948, between Walter W. McGoffin, residing at 219–24, 130th Road, Springfield Gardens, N. Y., and S. S. Baker, of 220 Broadway, New York, N. Y., said McGoffin and Baker being jointly hereinafter called the First Party, and Brelco Electronics Corp., a New York corporation, having its principal place of business at 55 Vandam Street, New York, N. Y., and Benjamin B. Green, of 58 East 78th Street, New York, N. Y., said Brelco and Green being jointly hereinafter called the Second Party.

WITNESSETH:

Whereas the first party represents and warrants that they have been granted U. S. Patent No. 2,446,943 on a "Selector" known as the "Automatic Radio Call Apparatus", said patent having been granted on August 10, 1948; and

Whereas the first party is desirous of exclusively licensing the second party to manufacture and sell the invention of a selector known as the automatic radio call apparatus; and

Whereas the second party is desirous of acquiring the sole and exclusive right and license to manufacture and sell the said invention of a selector known as the automatic radio call apparatus and any improvements thereon,

Now, therefore, in consideration of the sum of $1 by each party to the other in hand paid and the mutual covenants herein contained, the parties hereto hereby agree as follows:

1. The first party hereby warrants and represents that they are the sole and exclusive owners of a Selector known as the automatic radio call apparatus, and that they have received United States Letters Patent No. 2,446,943 for said invention.

2. The first party hereby grants and conveys to the second party the sale and exclusive right and license to manufacture and sell throughout the United States and its possessions and throughout any foreign country, the invention and/or improvement claimed in said Letters Patent No. 2,446,943, the invention thereof being a selector and known as the automatic radio call apparatus. Such "selector" comprises a radio receiver or amplifier, if applicable and a call selecting mechanism operated by said receiver.

3. The term of this agreement shall commence immediately upon the signing thereof by the respective parties hereto and shall terminate upon the expiration date of the respective terms for which such Letters Patent may be granted by the United States and/or any foreign country to the first party.

4. The second party agrees to keep true and correct books of account and records in which shall be entered each selector known as the automatic radio call apparatus manufactured and sold by it and which is subject to the terms of this agreement and such books of account and all records pertaining thereto, during all business hours, shall be open to the examination and inspection of the first party or their duly authorized attorney or accountant. The second party will require any sublicensee to maintain similar books and records to which both the parties hereto shall have access as above stated.

5. The second party shall render and deliver to the first party on or before the last days of February, May, August, and November in each year, a full and accurate statement in writing of all selectors known as automatic radio call apparatus manufactured and sold by it during the previous 3 months, which selectors known as automatic radio call apparatus were manufactured by the second party in accordance with the invention or improvement thereon hereinbefore referred to and simultaneously with the rendition and delivery of such statement, the second party shall pay to the first party all moneys due the first party hereunder for said 3-month period.

6. So long as this agreement is in full force and effect, the second party shall pay to the first party as a license fee upon each selector known as automatic radio call apparatus manufactured and sold by the second party and/or by any sublicensee of the second party, which selectors known as automatic radio call apparatus contain the invention or improvement hereinbefore referred to, a sum of

money equal to 6 percent of the net selling price of said selectors known as automatic radio call apparatus. For the purpose of computing the said sum of money, said selector shall include both a radio receiver, or amplifier, if applicable and a call selecting mechanism operated thereby.

That if the second party shall be unable to collect the purchase price of any such patented device sold by it, by reason of the insolvency of the purchaser or purchasers thereof, that then, and in that event, the second party shall not be required to pay to the first party any license fee in respect of any such patented device: *Provided, however,* That if the second party shall collect, or otherwise receive, any part of the purchase price of any such patented device, then, and in such event, the second party shall pay to the first party, when such collection shall have been made or received by the second party, the ratable percentage of the license fee based upon the selling price at the time when such collection is made or received. Similarly, the first party shall not be entitled to royalties from the sale of any patented device which is returned by the purchaser to the second party.

Both the second party and any sublicensee shall be jointly and severally responsible to the first party for payments of royalties on selectors made by such sublicensee. The statements required by paragraph 5 above shall also include selectors sold by sublicensees as a separate part of such statement.

If the second party shall be granted a development contract by any government or other agency which shall involve the selector and/or the invention set forth in Patent No. 2,446,943, then the first party shall be paid a 6-percent royalty on such development contract except if such payment of 6 percent be disallowed by such agency in which event the first party shall have the right to negotiate directly with such agency in arriving at a satisfactory royalty payment.

7. The price at which the selector known as the automatic radio call apparatus manufactured and sold by the second party and/or by the sublicensee of the second party, shall be fixed and determined solely by the second party and it is agreed that the price at which the said selectors known as automatic radio call apparatus are to be sold may, in the sound judgment of the second party, be changed from time to time.

8. In the event the first party shall apply for letters patent on the invention of the selector known as the automatic radio call apparatus in any foreign country then and in said event the same rights that are hereby granted to the second party in respect of the invention and improvements of the first party herein mentioned, shall automatically and by this instrument be granted to the second party on the same terms and conditions for the manufacture and sale of the selector known as the automatic radio call apparatus in the foreign countries in which applications for letters patent are made and granted.

9. In the event the second party desires to apply to any foreign country for letters patent of the invention of the selector known as the automatic radio call apparatus the second party agrees to advise the first party thereof in writing and in said event the first party has the right to apply to said foreign country for letters patent on said invention in their names or to recommend to the second party an attorney or attorneys therefor. In the event the first party does not advise the second party, in writing, within 10 days after the mailing by the second party to the first party of the intention of the second party to apply for letters patent to the foreign country, and in the event the first party does not diligently prosecute the application to the foreign country for said letters patent, then, and in either event, the right is hereby given to the second party, at its own cost and expense, through the attorney or attorneys recommended by the first party or through an attorney or attorneys selected by the second party to apply to said foreign country, either in the name of the second party or in the name of the first party, for letters patent of the selector known as the automatic radio call apparatus and all rights of ownership in said foreign patent shall be and remain in the first party, subject to the rights granted herein by the first party to the second party to manufacture and sell the said selector known as the automatic radio call apparatus during the term for which the said patents are granted by the foreign countries upon payment of the required royalty therefor pursuant to paragraph 6 above.

10. Either of the parties shall have the right to institute or bring any suit or suits that it may be advised to institute or begin for or by reason of the infringement of the invention or improvements hereinbefore referred to, or the letters patent in respect thereof, and for that purpose either shall have the right to use the name of the first party as a party complainant either solely or jointly with the second party's name: *Provided, however,* That such suit or suits shall be instituted, brought, maintained and conducted at a reasonable cost and expense shared

equally by the parties hereto. When the second party institutes such suit, the said costs and expenses will be advanced solely by the second party. The parties agree that such suit or suits shall not be settled or disposed of without first obtaining the consent of both parties hereto to such settlement or other disposition. Any and all sums received, obtained, collected, or recovered in any such suit or suits, whether by judgment, settlement, or otherwise, shall be the property of both parties.

11. The right is hereby given to the second party to grant sublicenses to any individual, partnership, or corporation in the United States and/or in any foreign country, to manufacture and/or sell the selector known as the automatic radio-call apparatus invented by the first party, and the second party agrees to pay to the first party a sum of money equal to 6 percent of the net selling price received by the sublicensees on the sale of the selector, known as the automatic radio-call apparatus.

12. In the event the second party, in manufactuing and selling the first party's invention of the selector known as the automatic radio call apparatus infringes upon a patent or invention owned by any individual, firm, or corporation and is given bona fide notice thereof to cease such infringement, then and in said event the second party is hereby given the right to cancel and bring to an end all of the terms and conditions of this agreement by giving the first party 30 days' notice thereof, in writing, and upon the termination of said 30 days, this agreement shall come to an end and terminate.

13. That if during the term of this agreement the second party or either of them shall be adjudicated a bankrupt or make a general assignment for the benefit of its creditors, or take the benefit of any insolvency act, or if a receiver or trustee shall be appointed in an insolvency proceeding for the property of the second party, then and in such event this agreement and all of the rights of the second party thereunder shall, at the option of the first party, forthwith cease and terminate.

14. In the event the second party fails to pay to the first party the moneys due the first party as provided in paragraph 6 hereinabove, then and in said event the first party is hereby given the right to notify the second party, in writing, of the default of the second party and in the event the said default is not cured and the moneys due the first party are not paid within 30 days after the mailing of said notice of default, the right is hereby given to the first party to terminate and cancel this agreement.

15. Anything to the contrary herein notwithstanding, in the event any governmental agency of the United States, or any State or municipal agency, pursuant to the Renegotiation Act, or pursuant to any legislation now in effect or hereafter enacted, shall, in arriving at the second party's production cost in manufacturing and selling the selector known as the automatic radio call apparatus and after the first party has had an opportunity to negotiate directly with such agency, disallow in full or in part the moneys to be paid by the second party to the first party pursuant to this agreement, then and in said event the moneys required to be paid by the second party to the first party pursuant to this agreement shall be reduced by the sum so disallowed by said agency or agencies in arriving at the second party's production cost of manufacturing and selling the selector known as the automatic radio call apparatus. But the first party shall have the right to negotiate directly with such agency and shall have recourse against such agency for use of said invention as permitted by law.

16. The second party agrees to associate the name "McGoffin" with the licensed invention in the promotion and sale thereof.

17. All notices required to be sent hereunder are to be sent to the parties hereto at their addresses set forth in this agreement, or to such new addresses as the parties hereto may designate in writing.

18. In the event the moneys paid and/or due the first party hereunder in any year commencing with November 1, 1948, do not equal the sum of $750, then and and in said event the first party is hereby given the right to notify the second party, in writing, of their intention and desire to cancel and terminate this agreement; within 30 days after the mailing of such notice the second party is hereby given the right to pay to the first party the difference between $750 and the payments made to the first party during said year, in which event this agreement shall continue in full force and effect; in the event the second party, during said 30-day period, does not avail itself of the right to pay to the first party the difference between $750 and the moneys paid during said year, then, at the option of the first party, this agreement shall terminate and come to an end. However, notwithstanding such minimum payment, the second party shall, and shall require any such licensee to, exercise best efforts for the promotion and sale of the selector

known as the automatic radio call apparatus at all times during the life of this agreement.

19. This license shall be nonassignable without the prior written consent of the first party.

20. This agreement shall be binding upon the parties hereto, their heirs, executors, administrators, legal representatives, and assigns.

21. The execution of this agreement is intended as a revocation of a prior agreement between Walter W. McGoffin and Brelco Corp., dated November 1, 1944, and modifications thereof.

IN WITNESS WHEREOF, the first party has hereunto set their hands and seals and the second party has caused this instrument to be signed by Benjamin B. Green and by the corporate president, thereunto duly authorized, and its corporate seal to be affixed, attested by its Secretary, the day and year first above written.

BENJAMIN B. GREEN,
BRELCO ELECTRONICS CORP.
By BENJAMIN B. GREEN, *President.*
WALTER W. MCGOFFIN, *President.*
S. S. BAKER.

Attest: A. W. SEREYSKY.

STATE OF NEW YORK,
County of New York, ss:

On the 22d day of November 1948, before me personally came and appeared Walter W. McGoffin, to me known and known to me to be the individual described in and who executed the foregoing instrument and he duly acknowledged to me that he executed the same.

DAVID H. WEISS, *Notary Public.*

STATE OF NEW YORK,
County of New York, ss:

On the 22d day of November 1948, before me personally came and appeared S. S. Baker, to me known and known to me to be the individual dscribed in and who executed the foregoing instrument and he duly acknowledged to me that he executed the same.

DAVID H. WEISS, *Notary Public.*

STATE OF NEW YORK,
County of New York, ss:

On the 22d day of November 1948 before me personally came and appeared Benjamin B. Green, to me known and known to me to be the individual described in and who executed the foregoing instrument and he duly acknowledged to me that he executed the same.

DAVID H. WEISS, *Notary Public.*

STATE OF NEW YORK,
County of New York, ss:

On the 22d day of November 1948, before me came Benjamin B. Green to me known, who, being by me duly sworn, did depose and say that he resides in New York City; that he is the president of Brelco Electronics Corp., the corporation described in and who executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation; and that he signed his name thereto by like order.

DAVID H. WEISS, *Notary Public.*

STATEMENT OF BENJAMIN B. GREEN OF BRELCO ELECTRONICS CORP., RE H. R. 4090

The shipping industry, through its associations, has determined that H. R. 4090 must not be enacted. To accomplish that end, the means are immaterial. So a campaign of distortion, half-truths, falsehoods, personal attacks on proponents of the legislation has been launched both in the press and before the subcommittee of the Foreign and Interstate Commerce Committee of the House.

1. The shipping industry has stated that enactment of H. R. 4090 will cost the industry up to $30,000, per year for additional wages, because it requires either the selector or an additional radio operator. This contention is patently false.

A reading of the Communications Act in its present form reveals this language requiring an additional radio operator is already present in the wording which makes the autoalarm mandatory. This present bill simply retains the same language in making this new safety device mandatory, along with the autoalarm. The shipowners have had the choice of adding one additional radio operator or installing the autoalarm. This has been in the law for 18 years, is no new feature and is the mechanics for making equipment mandatory.

Further, the proposed legislation provides that the proposed selector must be found by FCC to be available at a reasonable cost before its installation is to be mandatory. Assuming such finding by FCC, if there is to be any additional wage outlay by the shipping industry for radio operators, it will be solely as a result of their own free choice to make such expenditure.

The economic hardship claims of the suggested annual cost of millions of dollars is a distortion of available scientific fact. Any analysis will reveal that it can be asserted and claimed as a fact only if the proposed law is completely distorted in its text. This distortion would be a violation of the intent of the law.

The cost of this device will not be in excess of $3,000 per unit, which cost amortized over the years of its economic life results in a daily cost measured in dimes. The charter cost of 1 cargo vessel is approximately $720,000 per year. The additional cost of this equipment is thus insignificant.

3. The shipping industry has never shown the slightest interest in finding out about the effectiveness of the improved device. At every point in maritime history, it has been necessary to legislate for safety devices. Not even the autoalarm would be aboard ships today unless Congress required it by legislation to be placed on ships.

4. An alerting system presently in existence which can be placed in operation after a disaster has occurred is adequate and sufficient for the shipping industry. A proposal that an alerting system be instituted to act as a preventive measure and forestall disasters at sea—the purpose of H. R. 4090—is viewed by these opponents of such legislation as "novel" and "a radical departure" from long-established marine safety communication procedure. * * *

5. Commissioner Webster of the FCC testified at length before the subcommittee. The preponderance of his testimony was given as that of an individual expert in this field, and not as an expression of the FCC views. He stated on many occasions that his opinions were his own and not those of the Commission.

Commissioner Webster admitted that there would be an increased safety potential by use of this equipment and that the device submitted for testing could be effective for its intended use with certain ninor modifications.

Commissioner Webster's opposition to the proposed legislation and his personal attack thereon must be viewed as to its objectivity. That such views may be subjected to bias may be gleaned from the record (p. 77–78). In his oral testimony, Commissioner Webster stated that he had not spoken to the shipowners and did not know how they feel. The edited testimony, however, reveals that there has been stricken from the record Commissioner Webster's statement that he "has not even talked to the shipowners." Why was this correction necessary? Were the Commissioner's views in any way flavored by conversations with shipowners? This would appear to be a matter of great importance. Of course, as a private individual in search of facts, Commissioner Webster has every right to speak to all parties in a controversy. But he must be aware that additional weight will be attached to his views in light of his position with the FCC.

6. The shipowners offered for the record a newspaper article appearing in the Baltimore Sun of June 5, 1955, written by one Helen Delich, stated by the shipowners' representative to be an expert in this field.

This same Helen Delich was the writer of a previous article in that newspaper appearing on May 9, 1955, concerning this proposed legislation. In this article of May 9, 1955, based completely on distorted and erroneous facts, this newspaperwoman wrote a completely biased article, in which she, among other things—

(*a*) Insinuated the author of H. R. 4090, Hon. John W. McCormack, majority leader, was motivated by personal interests in this legislation and not the safety of men and ships at sea for which it provides.

(*b*) Accused the Interstate and Foreign Commerce Committee of the 83d Congress of "railroading" through a predecessor bill without any opportunity for hearings. The article stated that a hearing was called overnight for a snowy Friday morning and those in opposition were given until 9 a. m. the following Monday to provide any testimony. The actual facts are that the hearing was held Monday, May 3, 1954, a beautiful sunny day without snow. Testimony was

included in the record which was submitted as late as June 4, 1954, more than a month after the hearing.

(*c*) Stated that all Government agencies affected by the bill gave adverse reports. This statement is made in spite of the reports by the United States Coast Guard and Department of the Navy, which give the lie to its accuracy. These facts were known to her at the time of her writing.

There were many other errors and there is no question that Helen Delich acted as a spokesman for the shipping industry who evidently furnished her with the information embraced in this article. Obviously, the writer did not even take the trouble to ascertain the truth which was readily open and available. The article was therefore a "smear" attack on the bill and its proponents. In writing her article, Brelco Electronics Corp. was not even called upon. It is an established newspaper custom to report both sides of a controversy.

7. In a letter to Brelco Electronics Corp. dated February 9, 1949, written by B. G. Furey, chief of operations, Moore-McCormack Lines, Inc., relating to the saving of the tanker *Adellen* by the S. S. *Mormacrey*, Moore-McCormack wrote praising the Brelco selector and among other things, stated that radio was "the only means of communication between the two vessels."

In a letter of May 7, 1954, addressed to this committee by Moore-McCormack Lines, Inc., relating in part to this same sea episode, the writer, now a subordinate of the chief of operations, indicates that there were many methods of communications between these two vessels, and the part of the Brelco selector was negligible.

It is submitted that this diverse opinion results only from the purpose intended to be accomplished by the statement. Fact becomes secondary.

8. The shipowners said that the call selectors previously sold by Brelco Electronics Corp. were never sold in large quantity for immediate delivery. Here are the facts:

(*a*) The United States Coast Guard bought 66.

(*b*) The Maritime Administration bought 108.

(*c*) Moore-McCormack bought 35.

At first, the USCG bought only one unit. They vigorously tested it for 1 year, then bought 5 more for testing purposes. After satisfying themselves as to the unit's reliability, they bought an additional 60 units. The Maritime Administration followed the same procedure. Today the USCG, in a statement to the subcommittee, poses no objections to the new unit. They are satisfied with their tests. But, the shipowners, not bothering to test the device, offer strong objections. Such objections should be considered in light of past experiences to get shipowners to use proper safety devices.

9. The device submitted for testing to FCC was a prototype model—not the finished product—and was submitted only to show that it was sound in electronic and engineering principles. The model was not intended for type approval. Its sole purpose was to apprise the FCC that such a device was available and could work. This availability was confirmed by Commissioner Webster who stated that the device with minor adjustments could be manufactured to fill the requirements of the proposed bill. The minor adjustments will be made. They must be approved by FCC before being placed on a ship. This negates another shipowner argument.

* * * The urgency signal (XXX) and the safety signal (TTT) are indicated by the shipowners to be signals of relative minor importance. The fact is that they are among the few signals of highest priority, the others being S O S and the international autoalarm signals, and so established by international agreement. These are signals intended to prevent the holocaust of a disaster. Their ready and immediate reception will be a substantial increase in the safety potential at sea.

Mr. HARRIS. The committee will stand adjourned subject to the call of the Chair.

(Whereupon, at 12:03 p. m., the committee recessed, subject to the call of the Chair.)

COMMUNICATIONS ACT OF 1934

(Automatic Radio Call Selectors on United States Cargo Ships)

WEDNESDAY, JUNE 15, 1955

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TRANSPORATION AND COMMUNICATIONS,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The committee met at 10 a. m., the Honorable Oren Harris (chairman) presiding.

Mr. HARRIS. The committee will come to order.

The committee is resuming hearings this morning on H. R. 4090, a bill to provide for automatic call selectors on cargo vessels.

You will recall at the last meeting there were several here who indicated their desire to be heard, and they were given assurance that opportunity would be afforded them in order that we could make as full a record as possible in connection with the problem.

We have three witnesses scheduled to be heard this morning. The first witness will be Mr. Edward Phillips. Mr. Phillips is a representative of the American Merchant Marine Institute, and I understand he is appearing in opposition to this bill.

Mr. Phillips, we are glad to have you with us this morning, and we will be glad to hear from you at this time.

STATEMENT OF EDWARD C. PHILLIPS, AMERICAN MERCHANT MARINE INSTITUTE, INC.

Mr. PHILLIPS. My name is Edward C. Phillips. I appear on behalf of the American Merchant Marine Institute, Inc., an association representing the owners of a majority of the privately owned oceangoing steamship vessels of all categories under the American flag. I have been instructed to present a statement on H. R. 4090 prepared by the institute's telecommunications committee.

With you permission, Mr. Chairman, I will dispense with reading the prepared statement which we wish to submit for the record. I will limit my testimony to certain information relating to it. The statement to which I refer is the one dated March 17, 1955, and headed "Statement adopted by Telecommunications Committee, American Merchant Marine Institute, Inc., on H. R. 4090."

Mr. HARRIS. Would you like to have the statement of March 17, 1955, included in the record, or is it already in the record?

Mr. PHILLIPS. We want this put in the record.

Mr. HARRIS. Without objection, it will be received for the record.

(The statement referred to is as follows:)

STATEMENT ADOPTED BY TELECOMMUNICATIONS COMMITTEE, AMERICAN MERCHANT MARINE INSTITUTE, INC., ON H. R. 4090

H. R. 4090 would amend part 2 of title 3 of the Communications Act of 1934 so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators. The effect of this proposed legislation would be to require all United States cargo vessels of over 1,600 gross tons to become fitted with a so-called automatic radiotelegraph call selector or else carry two or more radio operators and maintain a continuous radio watch. Cargo vessels of the United States, in accordance with national legislation and international treaty, presently carry one radio operator and an automatic alarm device. In accordance with such legislative and treaty requirements the radio operator stands an 8-hour watch for safety purposes, and the automatic alarm apparatus must be in operation at all times when the radio operator is not on watch. The automatic radiotelegraph selector would be required in addition to and is not proposed as a replacement for the present automatic alarm apparatus.

The automatic radiotelegraph call selector described in this bill is a device which would be capable of receiving and identifying any 1 of 5 different radiotelegraph calls occurring either on the radio frequency 500 kilocycle or on the frequency 8364 kilocycles (or some other high frequency), selectively, but with respect to frequency not simultaneously, and sound an alarm if, but only if, one or more of those five calls is received. The five calls to which the device would respond are: (1) the radiotelegraph call of the individual ship; (2) the international distress signal SOS; (3) the international urgency signal XXX; (4) the international safety signal TTT; and (5) some predetermined code which may be desired for use in national emergencies.

Except for certain minor modifications in language, H. R. 4090 is identical with H. R. 6004 (83d Cong.) as reported to the House last year by the Committee on Interstate and Foreign Commerce. The American Merchant Marine Institute, Inc., submitted a statement for the record in opposition to H. R. 6004. Our views in connection with the present bill, H. R. 4090, are very similar.

The proposed legislation concerns a device which has alleged safety aspects together with certain commercial capabilities. We discuss the alleged safety aspects first because if there should be any justification at all for this legislation it must be based upon the value or necessity of such a device for maritime safety. We oppose H. R. 4090 for the following reasons:

1. We believe it both inappropriate and premature to consider the mandatory installation of an unknown and untried piece of equipment, even if the purpose of such a device should be found to be desirable.

2. When reduced to practical operations the novel aspect of this proposal is for the general alerting of all vessels in connection with the receipt of safety and urgency messages. This is a radical departure from long-established, internationally specified marine safety communication procedure. International regulations specify only one device for general alerting (autoalarm), and the procedure for general alerting is specifically limited to actual distress situations and urgent cyclone warnings. (International Radio Regulations, sec. 922.)

3. There are substantial reasons why general alerting is not considered either necessary or desirable with respect to urgency and safety messages. The following are illustrative:

(*a*) International radio regulations provide that "Where the urgency signal (XXX) is used by a mobile station, it must as a general rule, be addressed to a specific station" (sec. 938).

(*b*) The safety signal (TTT) is used throughout the world to announce the transmission of important meteorological warnings or messages concerning navigational hazards. In practice, such messages are directed to and are concerned with local areas. In order to assure coverage within areas of their responsibility any particular safety message is transmitted by Coast Guard, Navy, and commercial stations within or contiguous to the area, not once but several times. The result is multiple transmission of the same message many times over. This same practice is followed internationally. Ships normally cover broadcasts of this nature relating to their area of interest, and all necessary information is certain to be picked up during transmissions which occur during normal radio watch hours. The application of general alerting to the safety signal would result in ships over wide areas being constantly alerted during offwatch periods in connection with repetitious messages in which only those ships in the immediate vicinity have any direct interest.

4. General alerting for actual distress transmissions is already provided for under international regulations. The proposed device would be a duplication of a

function now being satisfactorily performed by present equipment. If a device can be developed which will satisfactorily and reliably respond to the S O S signal as such, there is provision in the international radio regulations for the acceptance of such a device in lieu of the autoalarm, not in addition to it (sec. 931).

5. Changes in the marine telegraph safety system should only be undertaken after careful consideration by recognized authorities in this field. We have no information indicating that the equipments and practices prescribed by international agreements and regulations of the Federal Communications Commission to carry out this important aspect of maritime safety are deficient, unreliable, or unsatisfactory in any respect.

6. Even if our Government should depart from long-established international procedure and require general alerting for the several purposes proposed, a device of the kind proposed would not be necessary. The means is presently available through the autoalarm which is already required and in use on the vessel. All that is necessary would be to authorize transmission of the autoalarm signal preceding the transmission of urgency and safety signals. This could be prescribed by the FCC following proper international coordination, and no legislation is required. This, incidentally, would place all vessels on the same safety level, and the benefits and/or burdens thereof would not be limited to vessels of the American flag.

We are also opposed to the commercial aspect of this bill; i. e., response to the ship's telegraph call. An alarm for the purpose of responding to the ship station call letters would perform, primarily, a commercial function. To the extent it has anything to do with maritime safety, the relationship is indirect and nebulous.

We understand that the apparatus described in this bill is composed of five separate selector units being fed by a dual frequency receiver. The single selector units on which the design of this apparatus is supposedly based were originally designed for this commercial aspect. It is a patented selector—known as the Brelco-McGoffin ships call alarm. The equipment is complicated and difficult to maintain. It has not met with general acceptance. Furthermore, this device is not by any means the only way of performing this communications function. Also, since the purpose of this device is only to bring the radio operator on duty when he may be off watch, a function which is already being satisfactorily performed by the autoalarm in cases of maritime distress, we fail to recognize any safety application which would justify its required installation aboard our vessels; nor are we aware of the existence of any evidence to the contrary.

In the 83d Congress, the proponents of similar legislation (H. R. 6004), submitted a lengthy statement and numerous exhibits related thereto. The majority of the exhibits, or supporting statements, offered no testimony other than that the equipment provides a communications function. These testimonials offered nothing to indicate that the present maritime distress system is inadequate. Furthermore, there is a vast difference between recognizing that a particular equipment can peform a useful communications function, and requiring such equipment to be placed aboard vessels as a matter of law. There are many electronic and nonelectronic navigational and communication equipments on the market which are designed to perform a useful function, including that of safety, and which are being employed to a much greater extent than the device with which we are here concerned, but that does not imply that they should be mandatory. It is significant that not one of the various supporting statements referred to went so far as to even hint that the device described should be made mandatory equipment.

Also, included in the previous record were testimonials obtained from one of the ocean steamship companies in connection with their use of the Brelco-McGoffin ships call alarm. That company believes that the record was misleading in such respect, and submitted a letter in clarification. We note that the Pacific American Steamship Association has already submitted as an appendix to its statement and has requested the inclusion in the record of the letter of Moore-McCormack Lines, Inc., to the American Merchant Marine Institute, Inc., dated May 7, 1954, and signed by L. B. Victor, the manager of its radio department, setting forth its experience with this equipment. It is respectfully requested that the committee give careful consideration to this authoritative statement with respect to the practical function of the equipment which the bill would force us to put on all American-flag ships.

R. J. BAKER.

Mr. HARRIS. I notice there is also a statement of June 1. Is that a part of the overall statement?

Mr. PHILLIPS. I will come to that, sir, at the end of my discussion.

I wish to state at the outset that we have no enthusiasm for appearing before this subcommittee in opposition to a so-called safety measure. Our industry is safety conscious. Millions of dollars are spent in building safety features into American-flag vessels. Millions of dollars have been spent in operational measures and devices to increase the safety of life at sea. American-flag ships have led the way in this respect. I would certainly not be here today if there was any feeling within the industry that this legislation is necessary for safety purposes. On the contary, we are forced to oppose this bill, not so much because it would put an unneeded device aboard our vessels (which in itself would be sufficient reason for opposition), but because it would automatically result in a requirement for the carrying of additional radio operators.

This bill is a "Hobson's choice." It purports to give the shipowners the option of putting on either the specified equipment or an additional radio operator. We submit that there is no such choice. The operational results are such that the equipment could not be used without additional radio operators. The only alternative offered is to hire the additional personnel. Therefore, no call selectors would be installed.

The situation arises from the fact that what is being legislated here is a requirement for the general alerting of all cargo vessels in connection with a variety of special purpose messages. We refer to this in item 3 commencing on page 3 of our prepared statement.

3. There are substantial reasons why general alerting is not considered either necessary or desirable with respect to urgency and safety messages. The following are illustrative:

(*a*) International Radio Regulations provide that "Where the urgency signal (XXX) is used by a mobile station it must, as a general rule, be addressed to a specific station" (sec. 938).

(*b*) The safety signal (TTT) is used throughout the world to announce the transmission of important meteorological warnings or messages concerning navigational hazards. In practice, such messages are directed to and are concerned with local areas. In order to assure coverage within areas of their responsibility any particular safety message is transmitted by Coast Guard, Navy, and commercial stations within or contiguous to the area not once but several times. The result is multiple transmission of the same message many times over. This same practice is followed internationally. Ships normally cover broadcasts of this nature relating to their area of interest, and all necessary information is certain to be picked up during transmissions which occur during normal radio watch hours. The application of general alerting to the safety signal would result in ships over wide areas being constantly alerted during off-watch periods in connection with repetitious messages in which only those ships in the immediate vicinity have any direct interest.

On February 15 our New York office addressed a letter to the Commandant, United States Coast Guard, requesting information as to the frequency with which certain of the calls which would be responded to by this alarm device appear on the air.

Mr. O'HARA. What year?

Mr. PHILLIPS. The current year, sir.

The pertinent portion of the institute's letter reads as follows:

* * * We believe it important, in our consideration of this bill, to ascertain the frequency with which the internacional safety and urgency signals occur on the air. A continuous safety watch is maintained by the Coast Guard at its radio stations, and we believe the situation could be readily ascertained from an examination of the station logs of several stations. Information covering a period of about a week should be sufficient although a longer period might be preferable. Specifically, the information desired is a tabulation showing the number of times the automatic radio call selector would have been activated over the period exam-

ined, as illustrated by the occurrences of TTT and XXX messages. Such tabulation should show, with respect to each occurrence, the date and time (GCT), the nature of the call, and the call letters and location of the originating station. It would also be helpful if local time at the radio station could be shown as well.

On March 3d the institute received a letter dated March 1, 1955, from the Coast Guard, signed by Capt. S. H. Evans, United States Coast Guard, Chief, Office of Operations, by direction of the Commandant. Attached to the letter was a tabulation of calls logged December 1–10, 1954, at three of their radio stations. We wish to submit a signed copy of our letter and the original of the Coast Guard response as an exhibit.

Mr. HARRIS. It will be received.

(The exhibit referred to is as follows:)

AMERICAN MERCHANT MARINE INSTITUTE, INC.,
New York 4, N. Y., February 15, 1955.

H. R. 129, communications act amendment—Installation of automatic radio call selector on U. S.-flag cargo vessels

The COMMANDANT,
United States Coast Guard,
Headquarters, Washington 25, D. C.

DEAR SIR: Reference is made to pending legislation H. R. 129, a bill to amend part II of title III of the Communications Act of 1934, so as to require the installation of an automatic radio call selector on cargo ships of the United States carrying less than two radio operators, and for other purposes.

The automatic radio call selector which would be required is a device which would selectively receive and identify five different types of radiotelegraph calls and sound an alarm on the vessel if such calls are received. The calls which would be so responded to include the international safety signal TTT and the international urgency signal XXX. We believe it important, in our consideration of this bill. to ascertain the frequency with which the international safety and urgency signals occur on the air.

A continuous safety watch is maintained by the Coast Guard at its radio stations, and we believe the situation could be readily ascertained from an examination of the station logs of several stations. Information covering a period of about a week should be sufficient although a longer period might be preferable. Specifically, the information desired is a tabulation showing the number of times the automatic radio call selector would have been activated over the period examined, as illustrated by the occurrence of TTT and XXX messages. Such tabulation should show, with respect to each occurrence, the date and time (Greenwich civil time), the nature of the call, and the call letters and location of the originating station. It would also be helpful if local time at the radio station could be shown as well.

We hope the Coast Guard will be willing to cooperate with us in this matter.

Very sincerely yours,

WALTER E. MALONEY, *President.*

UNITED STATES COAST GUARD,
Washington 25, D. C., March 1, 1955.

AMERICAN MERCHANT MARINE INSTITUTE, INC.,
11 Broadway, New York 4, N. Y.

(Attention of Mr. Walter E. Maloney, president.)

DEAR SIR: Reference is made to your recent letter of February 15, 1955, concerning the frequency with which the international safety and urgency signals occur on the air.

Enclosed herewith for your information is a tabulation of such signals that were logged at Coast Guard radio stations New York (NMY), Boston (NMF), and Norfolk (NMN) for the period December 1–10, 1954.

Very truly yours,

S. H. EVANS,
Captain, United States Coast Guard,
Chief, Office of Operations
(By direction of the Commandant).

TTT and XXX calls logged at Coast Guard radio stations NMY (New York), NMF (Boston), and NMN (Norfolk), Dec. 1–10, 1954

Date and time (GCT)	Type of message	Station of origin	Logged at—			Local time
			NMY	NMF	NMN	
010400	TTT	VRY (Demerara)	X			2300
0530	TTT	NMD (Cleveland)	X		X	0030
0536	TTT	NMP (Chicago)	X		X	0036
0548	TTT	NMQ (Long Beach, Calif.)	X			0048
0600	TTT	NMD (Cleveland)			X	0100
0707	TTT	NMP (Chicago)	X			0207
0800	TTT	NMD (Cleveland)	X	X		0300
0918	TTT	NMF (Boston)	X	X	X	0418
0948	TTT	NMY (New York)	X	X	X	0448
1100	TTT	NMP (Chicago)	X	X		0600
1218	TTT	NMF (Boston)	X	X	X	0718
1220	TTT	NMY (New York)	X		X	0720
2218	TTT	do	X		X	1718
2248	TTT	NMF (Boston)	X	X		1748
020018	TTT	do		X	X	1918
0019	TTT	NMY (New York)	X		X	1919
0052	TTT	NMG (New Orleans)	X			1952
0148	TTT	NMF (Boston)	X	X	X	2048
0348	TTT	do	X	X	X	2248
1218	TTT	do	X	X	X	0718
2150	TTT	VAU (Nova Scotia)	X			1650
2318	TTT	NMF (Boston)	X	X	X	1818
030018	TTT	do		X		1918
0148	TTT	do		X	X	2048
0318	TTT	do		X	X	2218
0719	TTT	NMD (Cleveland)	X			0219
0800	TTT	do	X	X	X	0300
1000	TTT	do	X	X	X	0500
1218	TTT	NMF (Boston)	X	X	X	0718
040205	TTT	NMD (Cleveland)		X		2105
0218	TTT	NMF (Boston)		X		2118
0302	TTT	NMP (Chicago)			X	2202
0401	TTT	NMD (Cleveland)		X	X	2301
0702	TTT	NMP (Chicago)		X	X	0202
0847	XXX	NMA (Miami)		X		0347
0848	TTT	VCS (Nova Scotia)			X	0348
1018	TTT	do	X	X	X	0518
1218	TTT	NMF (Boston)	X	X		0718
1538	TTT	ELCR (ship)	X		X	1038
2218	TTT	NMF (Boston)	X	X	X	1718
2230	TTT	NMD (Cleveland)	X		X	1730
2300	TTT	NMP (Chicago)			X	1800
2335	TTT	WNU (New Orleans)			X	1835
2349	TTT	do	X		X	1849
050018	TTT	NMF (Boston)	X	X	X	1918
0200	TTT	NMD (Cleveland)	X		X	2100
0320	TTT	WBL (Buffalo)		X	X	2200
0400	TTT	NMD (Cleveland)			X	2300
0521	TTT	WBL (Buffalo)	X	X		0021
0548	TTT	NMF (Boston)		X		0048
0648	TTT	NMD (Cleveland)		X		0148
0700	TTT	NMP (Chicago)			X	0200
0718	TTT	WBL (Buffalo)		X		0218
0803	TTT	NMD (Cleveland)	X	X	X	0303
0900	TTT	NMP (Chicago)	X			0400
1000	TTT	NMD (Cleveland)	X		X	0500
1050	TTT	WLC (Michigan)	X			0550
1100	TTT	NMP (Chicago)	X			0600
1111	TTT	WNU (New Orleans)	X		X	0611
1128	TTT	NMD (Cleveland)	X		X	0628
1200	TTT	do	X		X	0700
1218	TTT	NMF (Boston)		X		0718
1451	TTT	WLC (Michigan)	X			9951
1748	TTT	NMY (New York)	X			1248
2118	TTT	do	X			1618
2151	TTT	WSC (Tuckerton)	X		X	1651
2218	TTT	do	X	X	X	1718
2248	TTT	NMY (New York)	X	X	X	1748
2248	TTT	NMG (New Orleans)			X	1748
060018	TTT	NMY (New York)	X	X	X	1918
0048	TTT	NMF (Boston)	X	X	X	1948
0118	TTT	NMG (New Orleans)	X		X	2018
0318	TTT	NMF (Boston)	X	X	X	2218
0419	TTT	NMP (Chicago)			X	2319
0451	TTT	WLC (Michigan)	X			2351
0500	TTT	NMP (Chicago)	X	X	X	0000
0659	TTT	do			X	0159
0850	TTT	WNU (New Orleans)	X		X	0350
0900	TTT	NMP (Chicago)			X	0400

TTT and XXX calls logged at Coast Guard radio stations NMY (New York) NMF (Boston), and NMN (Norfolk), Dec. 1–10, 1954—Continued

Date and time (GCT)	Type of message	Station of origin	Logged at—			Local time
			NMY	NMF	NMN	
1218	TTT	NMF (Boston)	X	X	X	0718
1318	TTT	NMN (Norfolk)	X		X	0818
2118	TTT	WSC (Tuckerton)	X	X		1618
2148	TTT	NMY (New York)	X		X	1648
2248	TTT	do	X	X	X	1748
2318	TTT	NMG (New Orleans)	X		X	1818
2348	TTT	Call interfered with		X	X	1818
070018	TTT	NMY (New York)	X	X	X	1918
0048	TTT	do	X	X	X	1948
0148	TTT	NMF (Boston)		X	X	2048
0248	XXX	NMG (New Orleans)		X	X	2148
0418	TTT	NMV (Jacksonville)	X			2318
0811	XXX	KWOK (ship)	X		X	0311
0817	XXX	do	X	X		0317
0820	XXX	do	X	X	X	0320
0822	XXX	WAX (Miami) rebroadcast	X	X		0322
0856	XXX	KWOK (ship)	X		X	0356
0900	XXX	WAX (Miami) rebroadcast	X	X	X	0400
1001	TTT	VCF (Quebec)		X		0501
1800	TTT	NMY (New York)	X		X	1300
1918	TTT	NMN4 (Bermuda)	X		X	1418
2018	TTT	NMA (Miami)			X	1518
2048	TTT	NMN4 (Bermuda)			X	1548
2118	TTT	NMN (Norfolk)	X		X	1618
2218	TTT	NMY (New York)	X			1718
2248	TTT	NMN (Norfolk)	X		X	1748
2250	TTT	NMG (New Orleans)	X			1750
2318	TTT	NMA (Miami)	X		X	1818
080018	TTT	NMY (New York)	X		X	1918
0048	TTT	NMG (New Orleans)	X		X	1948
0158	XXX	NMA (Miami)			X	2058
0218	TTT	NMG (New Orleans)			X	2118
0248	TTT	NMY (New York)	X	X		2148
0334	XXX	NMD (Cleveland)	X			2234
0401	XXX	do	X	QRM		2301
0404	TTT	WBL (Buffalo)	X	X		2304
0600	TTT	NMY (New York)	X	X	X	0100
1000	XXX	NMN (Norfolk)	X	X	X	0500
1218	TTT	NMY (New York)	X		X	0718
1248	TTT	NMG (New Orleans)			X	0748
1800	TTT	NMY (New York)	X		X	1300
2218	TTT	do	X	X●		1718
2300	XXX	NMN (Norfolk)	X		X	1800
090018	TTT	NMY (New York)	X		X	1918
0048	TTT	NMF (Boston)	X	X	X	1948
0418	TTT	do	X	X		2318
0550	TTT	CNP (Casablanca)			X	0050
0600	TTT	NMY (New York)	X			0100
0712	TTT	VCC (Quebec)	X		X	0212
0800	TTT	do	X	X	X	0300
0910	TTT	do	X	X	X	0410
0925	TTT	WCC (Chatham)	X	X	X	0425
0948	TTT	do	X	X	X	0448
1010	TTT	WBL (Buffalo)	X	X	X	0510
1029	TTT	NMD (Cleveland)	X			0529
1218	TTT	NMF (Boston)	X	X	X	0718
1718	TTT	NMY (New York)	X		X	1218
1748	TTT	NMN4 (Bermuda)			X	1248
1800	TTT	NMY (New York)	X		X	1300
1805	XXX	do	X		X	1305
2148	TTT	do	X	X		1648
2200	XXX	NMN (Norfolk)			X	1700
2218	TTT	CND (Morocco)		X		1718
2248	TTT	do		X		1748
100018	TTT	NMF (Boston)	X	X	X	1918
0148	TTT	do	X	X		2048
0200	XXX	NMA (Miami)	X			2100
0448	TTT	NMD (Cleveland)	X		X	2348
0600	TTT	NMY (New York)	X	X	X	0100
0648	TTT	NMD (Cleveland)		X		0148
0648	TTT	VCS (Nova Scotia)	X	X		0148
0649	TTT	VAU/VAR (Nova Scotia)	X	X		0149
0718	TTT	VAU (Nova Scotia)		X		0218
1000	XXX	NMN (Norfolk)	X	X	X	0500
1248	TTT	VAU (Nova Scotia)	X	X		0748
1249	TTT	VAR (Nova Scotia)	X	X	X	0749
1311	TTT	WSL (Amgauretto)		X	X	0811

TTT and XXX calls logged at Coast Guard radio stations NMY (New York), NMF (Boston), and NMN (Norfolk), Dec. 1–10, 1954—Continued

Date and time (GCT)	Type of message	Station of origin	Logged at—			Local time
			NMY	NMF	NMN	
1313	TTT	VAU (Nova Scotia)		QRM	X	0813
1718	TTT	NMF (Boston)	X	X	X	1218
1800	TTT	NMY (New York)	X			1300
1818	TTT	NMN4 (Bermuda)	X		X	1318
1823	TTT	Call interfered with			QRM	1325
2010	TTT	VCS (Nova Scotia)		X		1510
2018	TTT	NMN (Norfolk)	X			1518
2019	TTT	VAU (Nova Scotia)		X		1519
2200	XXX	NMN (Norfolk)	X		X	1700
2218	TTT	NMY (New York)	X	X	X	1718
2248	TTT	Call interfered with		QRM		1748

Summary, Dec. 1–10, 1954

	NMY	NMF	NMN
TTT:			
Broadcasts made	28	27	4
Calls heard	79	47	95
Total	107	74	99
XXX:			
Broadcasts made	1		5
Calls heard	13	8	7
Total	14	8	12

ANALYSIS BY TELECOMMUNICATIONS COMMITTEE OF THE AMERICAN MERCHANT MARINE INSTITUTE, INC., ON THE REPORT OF THE FEDERAL COMMUNICATIONS COMMISSION ON THE BRELCO AUTOMATIC RADIO CALL SELECTOR

Contrary to the requirements of H. R. 4090, it is apparent that the Brelco automatic radio call selector will not respond simultaneously to and identify each of the prescribed signals in actual practice. It can only respond to one signal at a time since only one receiver is employed. The call selector will not identify the type of signal received.

In order to actuate the equipment, it is necessary that the telegraphic sending shall be substantially perfect. It is a known fact that there is a wide variation in transmitting speeds and spacings used by radio officers. In this connection it should be noted that the equipment must be manually adjusted to various code transmission speeds for response to the different signals.

It is evident from the FCC report that the Brelco apparatus will not respond with even a fair degree of efficiency in the presence of ambient interference. In heavy radio traffic areas, interference will blanket the alerting signals to which this device should respond. Heavy atmospheric static found in many parts of the world will have the same effect.

The Brelco call selector responded to an excessive number of "false alarms." It is possible and very probable, for example, that combinations of the letter O, which is made with three dashes, and other letters formed with dashes, will set off the international safety signal (TTT TTT TTT) selector alarm.

In areas where ships and coast stations are working, such combinations of letters may be sent many times during the ship's off-watch periods.

The Brelco radio call selector is not capable of being actuated by the authorized international urgency signal (XXX XXX XXX), owing to the limitation in the total number of available selector switches. Of the numerous factors contributing to the inefficiency of this device, as revealed by the FCC laboratory tests, it should be noted the lowest percentage of response occurs to the distress signal and the urgency signal, creating reasonable doubt of its value as a safety device.

Furthermore, the report shows this device is most inefficient during the ship's off-watch (nighttime) hours it is supposed to cover.

Mr. PHILLIPS. I believe the committee has copies of this material before them. For the benefit of the committee, we have added on the stenciled copies the words "night" and "day," in brackets, to show when these messages occurred with respect to local time.

Our telecommunications people have made an analysis of the Coast Guard tabulation and this is what they find—we use the New York area for illustration. The same result takes places with respect to the others.

During the first 10 days of December, 1954, the Coast Guard radio station at New York sent only 4 TTT messages of a weather or hydrographic nature during the nighttime hours (9 p. m. to 9 a. m. local time). Those are the hours during which no radio officer watches are stood on our United States cargo vessels. These 4 TTT messages were actually only 2 messages; the other 2 being repeats of the first 2. All other messages sent from this radio station were either sent during daytime hours when the radio operator could be on watch, or were repeats of a special information message which I will discuss later.

During this same nighttime period there were 49 other TTT calls logged. These came from stations outside of the New York area, and could not possibly have had any information of value to ships in the vicinity of New York. Let me list a few from the Coast Guard tabulation: Demerara, Cleveland, Chicago, Long Beach, Calif., Cleveland, Chicago, and so forth. This means that for a ship in the New York area, the call selector would have brought the radio operator on watch a minimum of 53 times during the nighttime hours on these TTT calls alone. On one of these nights the alarm would have gone off 11 times, and on 2 other nights the alarm would have gone off 10 times each. Although it is hardly necessary, we might add that these figures do not include the times the alarm would have brought the radio operator on watch during his off-watch periods in the daytime hours, or the alerts resulting from other messages to which the device would respond. Nor do these figures include the 68 false responses in 538 hours of operation on 55 kilocycles testified to by the Federal Communications Commission.

We have no reason to believe that the sponsor of this bill is aware that this situation would result. On the other hand, there are others interested in this bill who are obviously in a position to know. We submit that the very day this legislation is passed the radio officer unions will come forward with the quite logical offer to dispense with the call selector device. The additional radio operators who would have to be put on the ships just to run it, would relieve the owners from the equipment requirement called for in the legislation.

I will now discuss those very few special purpose messages which were sent out by the Coast Guard radio station at New York during the night-time hours. The two messages which were either storm warnings or hydrographic messages were handled in accordance with standard procedure. They were transmitted once upon receipt, a second time following the first silence period for single operator ships, and again on the regularly scheduled hydrographic broadcast for the station. Any radio operator on a cargo vessel has these messages available to him at times when he is on watch. No call selector device is needed.

In addition to the foregoing, we find that another group of TTT messages were logged. These occurred at 1800 GMT, and 0600

GMT on the dates of December 7, 8, 9, and 10. There were all repeats of a single information message. This message advised that a 42-foot ketch called the *Inregard* was considered overdue on a voyage from Montauk Point, N. Y., to St. Thomas, V. I. It gave a description of the vessel and asked all vessels to be on the lookout for it.

This message was sent out by the Coast Guard area commander on December 7 to the Coast Guard radio station at New York, Norfolk, and Miami. These stations were given instructions to transmit it twice daily in accordance with the following schedule: New York, 0600 and 1800 Greenwich mean time; Norfolk, 1000 and 2200 Greenwich mean time; Miami, 1200 and 1400 Greenwich mean time.

The New York station sent this message out six times as a TTT (safety) message, and once as an XXX (urgent) message.

Both the Norfolk and Miami stations treated this as an "urgent" message, and prefixed its transmission with the XXX signal. Altogether, this same message was logged by the several stations 12 different times. Obviously, it appeared on the air more than that. It was the only urgent or XXX message recorded at any of the stations which could have had a local interest. It is obvious that any cargo vessel would have received this message during normal watch periods, and that the effect of the call selector device would have been only to create a half dozen or more needless alerts during off-watch periods on every American cargo vessel along the Atlantic Coast.

There is one other aspect of this matter noted in our prepared statement to which we wish to call attention. This is contained in items 5 and 6, commencing on page 4.

5. Changes in the marine telegraph safety system should only be undertaken after careful consideration by recognized authorities in this field. We have no information indicating that the equipment and practices prescribed by international agreements and regulations of the Federal Communications Commission to carry out this important aspect of maritime safety are deficient, unreliable, or unsatisfactory in any respect.

6. Even if our Government should depart from long-established international procedure and require general alerting for the several purposes proposed, a device of the kind proposed would not be necessary. The means is presently available through the autoalarm which is already required and in use on the vessel. All that is necessary would be to authorize transmission of the autoalarm signal preceding the transmission of urgency and safety signals. This could be prescribed by the FCC following proper international coordination, and no legislation is required. This, incidentally, would place all vessels on the same safety level, and the benefits and/or burden thereof would not be limited to vessels of the American flag.

Mr. Chairman, that concludes our comments on the bill itself. However, we would like to submit for the record a brief analysis of the FCC laboratory tests which has been made by the Institute's Telecommunications Committee. This analysis, among other things, shows that the proposed device will not respond simultaneously to and identify each of the particular prescribed signals as called for in the bill; that it requires substantially perfect sending and favorable conditions of interference—in other words, abnormal conditions, in order to operate with even a fair degree of efficiency, and that it responded to an excessive number of false alarms.

Our Telecommunications Committee has prepared one more document, Mr. Chairman, which, because of its importance, we wish to read into the record. It is "Comment on Statements of the American Radio Association, CIO, made in support of H. R. 4090, believed mis-

leading by the Telecommunications Committee of the American Merchant Marine Institute, Inc."

We believe some of those comments to be seriously misleading and in great need of correction, particularly with regard to those aspects which are derogatory to the steamship industry. I would like to read the statement, if I may.

Mr. HARRIS. You are talking now about the statement of June 1?

Mr. PHILLIPS. The statement of June 1.

The testimony of the representative of the American Radio Association, CIO, has been given careful consideration. It appears to boil down to 2 or 3 major contentions to the effect that (1) the proposed call selector device is needed for "preventive safety" and national-defense purposes, and (2) that the shipowners are laggards with respect to maritime safety, and the FCC "stick-in-the-muds" because they do not support this legislation. These major contentions are developed by means of numerous misleading statements. Outstanding examples are discussed below. This is not to be taken, however, as concurrence on our part with other statements of the proponents not discussed herein.

1. To provide greater safety through approaching the matter along the lines of preventative measures, we asked that changes be made in the provisions of the predecessor bill, etc.

AMMI comment: Only 2 of the 5 signals to which the device will respond, urgency (XXX XXX XXX) and safety (TTT TTT TTT) signals, have any direct relation to preventive safety. The disruptive result and lack of necessity for applying general alerting to these signals are thoroughly discussed in a statement submitted by the AMMI. It is also shown that even if it should be found desirable for all ships to be alerted every time one of these signals is transmitted, the ships already carry an autoalarm device which can perform this alerting function, if appropriately authorized. The other three signals to which this device will respond are not preventive safety. Response to the ship's call letters is a commercial function; response to S O S is duplication of a function being satisfactorily performed by the autoalarm; and response to a coded emergency signal for national defense is a shot in the dark at a function which appears to have been thrown into the bout with a hope that it would give the Defense Department some grounds on which to support the bill.

2. The FCC along with the entire maritime industry has been content to stand pat on the old autoalarm system, for over a quarter of a century unimproved except in minor respects.

AMMI comment: Any deficiencies attributed to the present autoalarm because of radio propagation, static, and other external forces are just as applicable to the proposed selective call alarm device. As a matter of fact, new technical specifications for the autoalarm were supported by both the FCC and industry at the Safety of Life at Sea Conference, London, 1948, and have been adopted internationally. A significant change is contained in regulation 11 (v), chapter IV of the Safety Convention, which provides that the autoalarm in the presence of atmospheric or interfering signals shall—

automatically adjust itself to that within a reasonably short time it approaches the condition in which it can most readily distinguish the alarm signal.

Improved autoalarm devices incorporating this and other features are now undergoing type tests by the FCC. All new and replacement

installations will meet these new conditions. Such features are not incorporated in the proposed call selector device, and when Commissioner Webster of the FCC outlined various measures which would have to be taken to ensure operational reliability comparable to the present autoalarm, he was accused by these proponents of asking "more than is frankly necessary."

3. We have always felt that to adequately provide for this eventuality, a continuous human radio watch should be maintained by at least three radio officers. This is the practice abroad Navy vessels, but that approach was rejected in the maritime industry. * * * What's more, the Navy is not sitting on its hands with respect to electronics process but continues to install more modern electronics apparatus aboard its vessels. * * *

AMMI comment: There is no basis for reasonable comparison of commercial with military vessels. There is no more point in adopting Navy electronics equipment standards than there would be to placing guns aboard commercial vessels because they are carried on battleships; and no more point to adopting Navy manning standards than there would be to adopt military standards of pay and hours of work. Nevertheless, we do not know of any navigational or communication devices of a safety nature in general use by the Navy which are not also voluntarily in use in the merchant marine.

4. Certainly the few dimes a day that any piece of equipment costs is not a reasonable argument * * *.

AMMI comment: The cost of the device itself is not ascertainable because none has been manufactured. The stated cost of not much more than $1,600 to $1,700 for the new device (which incorporates 5 selectors) is obviously questionable when the known cost of the device containing only 1 selector unit was at least $1,650, 5 years ago. Maintenance figures are not available. However, as we have shown, the major cost is in the forced hiring of additional personnel which might well exceed $20,000 per ship per year. Even if this were not the case, the overtime cost of answering false and other alarms of little or no use to the vessel would result in an additional operating cost of $30 to $40 per day.

5. The maritime industry is slow to adopt new methods, and is frankly loath to put new equipment aboard no matter how little it costs.

AMMI comment: The maritime industry voluntarily installed direction-finding equipment 20–25 years in advance of this becoming a required installation. The industry has voluntarily installed radar, depth sounders, loran, gyrocompasses and gyropilots, etc. None of these equipments is required by law, and they have been installed voluntarily for navigational purposes and preventive safety. For communication purposes they have voluntarily carried high-frequency communications equipment.

The maritime industry has been a strong supporter of the Government-industry organization known as the Radio Technical Commission for Marine Services (RTCM), which was mentioned previously in this hearing, since its formation in 1947. They have been active participants in the RTCM and have supported its work with financial contributions. The objective of the RTCM is "to advance the art

and science of marine services through the investigation of the technical phases of all available or potential applications of the telecommunications art, their coordination with allied arts, and the adoption thereof to recognized requirements." Among other things, the RTCM has been studying methods of enhancing the safety of navigation by providing a rapid means for shipmasters to exchange identification and navigational information by voice radio from bridge-to-bridge. Such procedure could be used with radar in avoiding collisions. The radio operator organization which now urges adoption of this legislation on the grounds of preventive safety has forced shipowners to remove radiotelephone equipments from the bridges of their vessels, and have established conditions of operation which prevent use of voice radio for navigational safety, on-scene communication in rescue operations, and similar safety applications which bear no threat whatsoever to the job security of radio officers.

6. * * * the process of corpses continues. I keep seeing men in New York, the biggest port in the country, whom I never see again. Aboard the steamship *Mormackite*, aboard the steamship *Southern Districts*, only in the last few months, I might say. These are men who are not walking the earth today (Record, p. 165).

AMMI comment: It appears to be implied that use of the call selector device might somehow have prevented loss of life in connection with these two marine disasters. Both of these vessels were overcome by heavy seas without sufficient advance warning for the radio officer to send out a distress message. We have no record of the radio equipment carried by the steamship *Southern Districts*, but the steamship *Mormackite* was equipped with the latest electronic communications and safety devices. The steamship *Mormackite* belonged to a steamship company which has been forced to remove radiotelephone equipments located on the bridge for use by the master in emergency situations as described in item 5 above. Whether in this instance the master would have had time to call for assistance over the radiotelephone before the capsizing of the vessel can, of course, not be proven. However, it must be obvious that having such telephone equipment available would have given the vessel more opportunity to seek assistance than the call selector device which is only a receiver and incapable of transmitting a call for help.

7. What happened to the lifeboat radio transmitters that were used aboard the United States merchant marine ships during World War II by order of the United States Navy at the end of the hostilities * * *. We witnessed the obscene spectacle of their hasty removal * * * to save the cost of their maintenance and repair.

AMMI Comment: The shipowners were ordered by the Government to remove these Government-owned equipments from the vessels they were operating. A letter addressed by the War Shipping Authority to all agents of War Shipping Authority vessels on November 26, 1945, directed the removal of portable radio transmitters for lifeboats from all freight vessels not carrying more than 12 passengers. The text of this letter in its entirety is attached.

Mr. HARRIS. Without objection, it will be inserted in the record at this point.

(The letter referred to is as follows:)

WAR SHIPPING AUTHORITY,
New York, N. Y., November 26, 1945.

To: All agents of War Shipping Authority vessels.
Attention: Operating managers.
Subject: Portable radio transmitters.

Portable radio transmitters are to be removed from all freight vessels that do not carry more than 12 persons as passengers.

The transmitters are to be sent to the local War Shipping Authority warehouse with a property removal notice declaring them surplus property.

MARTIN I. GOODMAN,
Marine Superintendent for Operations, Atlantic Coast District.

Mr. PHILLIPS. Facts in the matter are that, following the removal of the obsolete wartime equipments, the industry together with the Government supported the adoption internationally of improved lifeboat radio equipment as required equipment and they are presently installed aboard all merchant ships. Furthermore, the industry supported the adoption of national standards even higher (thus, more costly) than the improved equipment requirements called for by international regulations.

In closing, I wish to inform the committee there is in the audience a number of the members of the institute's telecommunications committee. Our industry has been greatly concerned over this bill, Mr. Chairman, and as evidence of this great interest this representative group of steamship people have come to Washington to be present at each stage of this hearing, and to be helpful to the committee if desired.

This is the third time they have come down here at some considerable expense and inconvenience to their companies, and I would just like to introduce them to the committee.

I would like to have the gentlemen stand up and I will start at the left and introduce Mr. Arthur Miller, of the Atlantic Refining Co. of Philadelphia; Mr. Bill Simon, of the United Fruit Co., New York; Mr. William Madsen of the Gulf Oil Co., Marcus Hook; Mr. Eric Roberts, of the Texas Co., New York; Mr. Harry Cornell, of the Esso Shipping Co.; and now I will come to Mr. Victor, the third gentleman, and I will tell you that Mr. Victor is manager of the radio department of the Moore-McCormack Line. Last year's record contains a letter submitted by this company on this bill. This company has had considerable experience with the basic device which is at issue here, and I would like to say that Mr. Victor is available for any questioning by any of the committee members on either this letter which is in last year's record, and which we understand is to be inserted in the record by the Pacific American Steamship Association, or the past experience they may have had with this equipment.

We feel he is an expert witness. I wish to make him available to you for any wishes you may have.

Mr. HARRIS. Thank you very much, Mr. Phillips. We are glad to have your appearance this morning manifesting your interest in the proposed legislation before this committee and the Congress. Does that complete your statement, Mr. Phillips?

Mr. PHILLIPS. Yes. I wish to thank the committee for the opportunity I have been given of presenting our views, and I will be glad to answer, or try to answer, any questions that the committee may have.

Mr. HARRIS. I would like to acknowledge, on behalf of my colleagues, the presence of a former member of the committee, Judge

Rabin of the Supreme Court of the State of New York. We are glad to have you with us. You are always welcome to the committee.

Mr. HINSHAW. I suggest that the letter that has been referred to as having been placed in the previous record be incorporated at this time and placed in this record so that it will be available to us in our hearing.

Mr. HARRIS. It has already been included in the hearing. Reference can be made to it.

Mr. HINSHAW. It is not in this hearing.

Mr. PHILLIPS. It is going to be put in by Mr. Dewey of the Pacific American Steamship Association, but he says for the purpose of sequence he is perfectly willing to have it put in at this point, and I have the letter here.

Mr. HARRIS. Will you identify the letter?

Mr. PHILLIPS. Yes. It is a letter from the Moore-McCormack Lines, Inc., dated May 7, 1954, addressed to the American Merchant Marine Institute, 11 Broadway, New York, N. Y., on the subject "Automatic Radio Call Selector, H. R. 6004." That is the number of the bill of the preceding session.

Mr. HARRIS. And the letter is signed by whom?

Mr. PHILLIPS. Mr. L. B. Victor, manager, radio department.

Mr. HARRIS. Without objection, it will be received.

(The letter referred to is as follows:)

[Source: House Interstate and Foreign Commerce Hearings on H. R. 6004, 83d Congress, p. 42]

MOORE-MCCORMACK LINES, INC.,
New York, N. Y., May 7, 1954.

Subject: Automatic radio call selector H. R. 6004.
To: American Merchant Marine Institute, 11 Broadway, New York 4, N. Y.

GENTLEMEN: During 1947, a radio instrument known as the Brelco-McCoffin call alarm was offered to the Moore-McCormack Lines. It was claimed by the manufacturer that this device would respond to the ship's call letters and actuate a bell to alert an off-watch operator upon receiving the vessel's code call letters. Also, that it would be of great commercial advantage inasmuch as cargo vessels carrying 1 radio operator maintain a manual watch 8 hours per day and the remaining 16 hours are covered by the compulsory autoalarm for safety purposes. It was advanced that messages, addressed to vessels proceeding between Atlantic coast ports, transmitting orders to change destination, or requesting information of urgent nature relating to cargo, repairs, etc., may in many cases be delivered hours earlier by the use of a ship's call alarm. The advancement of delivery of one of these messages could result in the saving of a sum greater than the initial cost of the ship's call alarm. In view of the possibility of such operational savings, 35 Brelco call alarms units were purchased for the Moore-McCormack cargo vessels.

The automatic radio call selector, generally known as the Brelco-McCoffin call alarm, is a device containing a radio receiver preset to two fixed frequencies, one of which is inoperative while the other is being used. This receiver passes all radio signals and static discharges received on the fixed frequency in use to a system of relays connected to a series of switches which can be set to the vessel's call letters or any other combination of dots and dashes not exceeding a total of 26 individual dots or dashes or any combination of both. When a series of dots or dashes corresponding to the preset switches are received, an alarm bell is actuated and continues to ring until a release button is pressed. This call alarm appeared to be very promising, but after our experience with 35 units during the past 5 years, we have changed our opinion in regard to its reliability. This change of opinion is due to shortcomings which were not apparent and were not reported to us during the first 2 years following the installations on our cargo vessels.

During 1949, it was found that about 50 percent of the call alarms on the Moore-McCormack vessels were inoperative due to mechanical failure. The main cause of mechanical failure was remedied by substituting parts made to our

specifications. This action improved the mechanical reliability of the equipment, but it was found that interference from other radio transmission or noise from static frequently disrupted the sequence of the dots and dashes set up on the selector, and prevented it from performing its function. The problem of static can be counteracted to some extent by use of a sensitivity control which can be set according to the noise level. However, by setting this control to a low level, the effective range of the instrument is proportionately shortened and its operational value materially affected. We have no way of knowing what proportion of the time the device has been successful in responding to initial calls since the coastal stations have been instructed to continue to call our vessels far in excess of the normal procedure on occasions when we have important messages to get through.

Such special handling in connection with important messages has been necessitated by frequent failure of vessels using this device to respond to routine calls. We might add that many of these cases involved relatively short distances with the vessels being en route from one port to another along the Atlantic coast.

In addition to the call alarm's failure to operate from causes traced to interferences and mechanical weakness, it has on occasion also suffered from another annoying defect, that is false alarms. For example, in a report by John J. Rowe, Jr., radio operator of the steamship *Mormacmail*, he reported 12 false alarms during a 2-week period. In a report by C. W. Faust, radio operator of the steamship *Mormackite*, he states "one call alarm was registered, no communications established with calling station, probably false alarm."

The writer has had many years of experience as a marine radio operator, dating back to 1919. During this period he has copied, or has been involved in, innumerable distress messages and situations. It is his opinion that the proposed automatic call alarm could not supplement or replace the autoalarm in summoning aid to a vessel in need of immediate assistance.

If this porposed device is installed on United States vessels it would in effect limit the number of vessels responding to a distress call originating from a United States vessel so equipped. Ships under foreign flags carrying the autoalarm, by international regulations, may not be alerted by a device transmitting a distress call which differs from the internationally prescribed autoalarm signal.

Several years ago one of our vessels, the steamship *Mormacroy*, stood by the British tanker *Adellen* for 3 days, after which the crew was removed from the disabled tanker. We understand that the sponsor of this proposed legislation has referred to the use of the call alarm in connection with this distress incident. The call alarm was not used in summoning aid for the *Adellen* and was used only to call the radio operator of the steamship *Mormacroy* at the times he went off watch during the 3 days' period. Both vessels were in clear sight of each other during the period, and the same results were accomplished by the *Mormacroy* by means of a flashing light. Also, flag hoists were used as means of communication.

In our view this incident serves only to confirm that the existing distress system satisfactorily served to bring the two vessels together, and that once together, vessels have available and will use, various means of maintiaining contact with one another including searchlights, whistles, flag hoists, flares, etc.

We do not feel that any selective calling equipment should be mandatory inasmuch as existing autoalarm equipment fulfills the safety requirements involving distress at sea, and we feel that the telegraph call alarm is purely a device of some commercial value which cannot be relied on implicitly but which offers the chance for the saving of operational expense, when operative.

In conclusion, we wish to go on record as opposing compulsory installation of another piece of equipment for a function which already is covered by the existing autoalarm equipment.

MOORE-MCCORMACK LINES, INC.,
By L. B. VICTOR,
Manager, Radio Department.

Mr. HARRIS. Mr. Mack.

Mr. MACK. I have several questions in mind this morning, but I do not feel right about taking the time, especially since the subject was well covered at the time Commissioner Webster was here. I consumed much time on that occasion. I hesitate to take time this morning.

Mr. DOLLIVER. I just want to emphasize a remark in the last of the statement on page 8, wherein you call attention to the fact that this

proposed device in this bill is subject to the same electronic limitations as other devices are, and subject to interference by disturbances in the atmosphere; in other words, it has no magic in the electronics field; is that correct?

Mr. PHILLIPS. That is correct, sir, and we even go further and say that this device is not even as good as the improved autoalarm devices which are presently on the ships, from a technical point of view of avoiding interference, and so forth.

Mr. DOLLIVER. Is it a fair summary of your statement to say that in your opinion this device is not necessary for additional safety at sea?

Mr. PHILLIPS. That is quite correct, sir.

Mr. DOLLIVER. Thank you. That is all.

Mr. HARRIS. Thank you very much, Mr. Phillips. We are very glad to have had your testimony here this morning.

We have Mr. Robert F. Donoghue on the list as a witness. Mr. Donoghue is a representative of the Pacific American Tank Ship Association here in Washington.

Mr. DEWEY. Mr. Donoghue is not here. My name is Ralph B. Dewey, Pacific American Steamship Association.

Mr. HARRIS. We have you as the next witness, Mr. Dewey.

Mr. DEWEY. I have discussed the matter with Mr. Donoghue. He is unavoidably out of town today and I am authorized to speak in behalf of his association.

I will identify that participation at the time I testify.

Mr. HARRIS. Very well. We will be glad to have your testimony, then, at this time.

Mr. DEWEY. Thank you, Mr. Chairman.

Mr. HARRIS. Do you have a statement of Mr. Donoghue you wish to include in the record?

Mr. DEWEY. No, I do not, Mr. Chairman.

Mr. HARRIS. Very well.

STATEMENT OF RALPH B. DEWEY, PACIFIC AMERICAN STEAMSHIP ASSOCIATION

Mr. DEWEY. The Pacific American Steamship Association is a nonprofit association and represents the 12 principal American ship operators on the Pacific coast. My appearance here is for the purpose of expressing the unqualified opposition of our member steamship lines to H. R. 4090, a bill to amend part II of title III of the Communications Act of 1934, so as to require the employment of an extra radio officer on cargo vessels or in lieu thereof the compulsory installation of an automatic radiotelegraph call selector.

I likewise am authorized to say that the Pacific Tank Ship Association, represented in Washington by Mr. Robert F. Donoghue, comprising the principal American tank ship operators on the Pacific coast, also subscribe to my statement and support its contents and likewise urge the opposition to the bill.

COST

This legislation would require the employment of two or more qualified radio operators aboard cargo ships of the United States where only one such operator is now required.

Mr. O'HARA. You mean by that per ship?

Mr. DEWEY. Per ship.

In addition, radio operators on cargo vessels would be required to maintain a continuous around-the-clock watch at all times the vessel is at sea, as opposed to the current requirement of only 8 hours watch out of 24. As a practical matter, three operators would be required to maintain a continuous watch. The expense of hiring two more radio operators on cargo vessels and the expense of keeping a continuous 24-hour watch—much of it at overtime rates of pay—could cost the operators of an average American cargo vessel at least $12,000 or more per year in straight-time wages plus an estimated $3,500 additional overtime pay and $2,500 for welfare and fund per year for the 2 additional operators. In other words, the radio room in a cargo ship would increase in cost from about $8,500 per year to nearly $26,500 per year by the terms of this legislation. This is quite a disadvantage to ask the American operator to assume in the face of low-cost foreign competition.

At this point I would like to add the following paragraph which bears upon this business of competition with foreign-flag lines.

One facet of this problem should not be ignored, and that is that the cost to the American taxpayers arising out of the application of this legislation to subsidize vessels. As the members of this committee are well aware, operating subsidies are paid on the basis of parity between American- and foreign-flag operators. It is quite apparent that American operators who by this legislation were forced to hire 2 more radio men and to maintain a 24-hour shipboard radio watch at a cost of $26,000 per year, for example, would be reimbursed under their subsidy contract.

For the 260 vessels currently operating under the Maritime Administration subsidy program this hardly can be considered an insignificant increase in the annual subsidy appropriations.

Shipowners, however, are given an opportunity to avoid this costly annual expense if they will but purchase and install aboard their cargo vessel a device known as an automatic radio telegraph call selector.

The increased cost arising out of this legislation, however, would pale into insignificance if safety of life at sea were being materially improved.

BUT SAFETY AT SEA IS NOT MATERIALLY IMPROVED

Expert witnesses from both Government and industry have already testified in previous similar legislation that this device is not necessary for safety at sea. The statements of the Coast Guard, Federal Communications Commission, Commerce Department and the Defense Department in testimony on a similar bill (H. R. 6004) in the 83d Congress on May 3, 1954, point out that the present mandatory autoalarm device is more than adequate from the safety standpoint to receive distress calls and cyclone warnings on off-watch hours. Any time the radio operator is not on duty, the present compulsory autoalarm device alerts the operator to answer on the distress frequency (500 kilocycles) so as to determine the proximity of any distress call and determine whether or not the vessel is in a position to assist.

Even the majority report on H. R. 6004 (H. Rept. 1906, 83d Cong.) expresses doubt on this score, and concludes:

> The availability of this equipment on American ships might make an important contribution to safety on the high seas.

DUPLICATES EXISTING EQUIPMENT

The general specifications of this call selector are set forth in the legislation. It is to be capable of receiving and identifying calls in Morse code on both 500-kilocycle and 836-kilocycle frequencies. The device is designed to receive five different signals—namely, ship station call (ship call letters), international distress signal (S O S), international safety signal (TTT), international urgency signal (XXX), and any other predetermined code which is desired. Of these 5 communication signals, however, only 1 is recognized as essential to safety of life at sea—namely, the S O S frequency. But this frequency is now and has been for 30 years on a 24-hour alert by reason of an automatic alarm device which must, by international agreement, be installed on cargo vessels of all nations having less that two operators. In other words, the device which this legislation forces upon the industry duplicates existing equipment for receiving distress calls.

BYPASSES INTERNATIONAL SAFETY AND COMMUNICATION CONVENTIONS

Telecommunications standards aboard merchant ships throughout the world are determined by international agreement. Section 922 of the International Radio Regulations requires that any distress calls and urgent cyclone warnings must be preceded by the autoalarm signal, and all United States vessels meet this requirement. The proposition to compel the purchase and installation of an automatic radiotelegraph call selector capable of receiving additional calls has never come up for consideration at international meetings of safety of life at sea. However, international regulations could be amended at any time to permit messages of lesser urgency to be preceded by the autoalarm signal.

RADAR AND OTHER ELECTRONIC DEVICES NOT COMPULSORY

Other electronic devices have been developed for shipboard safety in the past 15 years, but their installation has been on a voluntary basis. Perhaps the most classic examples are radar, loran and depth sounding devices. These devices, widely recognized as making major contributions to safety at sea, are not compulsory on United States flag merchant vessels. For at least 20 years prior to the invention of loran (electronic radio direction finding device), there existed on most merchant ships a device known as RDF, which permits vessels to determine their positions at sea along coastlines by means of radio fixes. RDF was not made compulsory on cargo ships until it had been tested and used for a great many years. It was adopted as a compulsory installation by the International Safety of Life at Sea Convention of 1948. The automatic call selector should likewise serve the same apprenticeship.

BYPASSES FEDERAL LAW

The Communications Act of 1934 already provides a procedure for analysis and approval of electronic equipment of this kind. Section 602 (e) specifically provides for method of proceeding to get approval of equipment in the field of marine radio. Passage of this legislation would in a sense be bypassing this section of the act.

I do not think enough has been made about the confusion that could arise aboard a merchant vessel with this device at its present stage.

CONFUSION COULD JEOPARDIZE VESSEL'S ALERTNESS TO DISTRESS CALLS

The general alerting of merchant vessels to messages that are less than distress urgency can be very confusing. For example, the safety signal (TTT) is used to transmit important weather and navigational messages. Coast Guard and Navy radio stations often transmit these messages many times. The radio operator on ships having one of these new automatic call selectors would be continuously alerted during offwatch periods (3.39 hours) to answer up on repetitious nonurgent messages, many of which are only of interest to ships in the immediate vicinity of the shore radio station, and many of which might already have been received by the ship during onwatch hours. Such confusion could jeopardize the main purpose of receiving distress calls.

DISCRIMINATION AGAINST AMERICAN-FLAGE OPERATOR

Foreign-flag vessels and certain vessels owned by the United States Government would not be required to comply with this legislation. If, in fact, safety at sea is the purpose to be served by this legislation, then we question why certain Government vessels have been excluded. Safety at sea is indivisible and is not truly accomplished unless all vessels, including foreign flag have common equipment which can communicate with each other. Without the inclusion of these vessels, it is our view that maritime safety is being fostered on a hit-or-miss basis.

5-SIGNAL DEVICE IS UNTRIED: PREVIOUS 2-SIGNAL MODEL FOUND UNSATISFACTORY

The automatic radiotelegraph call selector, specified in the proposed legislation, has to our knowledge not been made available on the commercial market. We believe it would be inappropriate, dangerous, and premature for Congress to order the installation aboard ships of an unknown, undeveloped, and untried piece of equipment.

So far to date, we in the industry don't know what this 5-signal equipment looks like or whether it will work under practical operating conditions. The only evidence we have that anyone has ever built such a device is from a news story in the New York Times of July 12, 1954, wherein a demonstration was reportedly held on Brelco Co. premises and attended only by company officials, labor leaders, a member of the press and friends of the manufacturer. This was apparently a family affair. To our knowledge, not a single ship operator, communications-equipment manufacturer, or FCC official was invited to this demonstration.

This association is aware, however, of a more simplified form of device as specified in the legislation. This simplified device has been manufactured by the Brelco Co., and we are informed that the Moore-McCormack Lines, a member of our association, which purchased 35 of these units, found the device was mechanically defective and served no purpose as regards safety at sea. Actually, the Moore-McCormack Lines initially purchased the device for commercial reasons, and as they point out, even this purpose was not adequately served. This information is spelled out in a letter filed with the Interstate and Foreign Commerce Committee and included in the record of May 3, 1954 on H. R. 6004, 83d Congress.

The letter to which I refer already was inserted in the record in Mr. Phillips' testimony.

COST OF MANUFACTURE UNKNOWN

The cost of the device is as yet unknown. The manufacturers of the Brelco device in the hearings on May 3, 1954, refer to the price of $1,650 for the earlier version of their equipment. No reference is made to the cost of the more elaborate equipment specified in H. R. 4090. If the price were to be $3,500, which is the lowest estimate of several marine communications authorities (opinions vary all the way up to $10,000 per unit), and opinions vary all the way up to $10,000 installed, the cost to the owners of 1,200 merchant cargo ships under the United States flag could be $4,200,000 plus installation and maintenance cost, to say nothing of overtime for answering all the alarm calls.

It cannot be emphasized too strongly that United States operators are having a hard enough time competing with foreign operators without adding any additional costs which their foreign competitors need not assume. Intercoastal vessels, barely able to compete with transcontinental railroads now, would be particularly burdened competitively.

I would like to elaborate on that point. You gentlemen are charged with the responsibility for Interstate and Foreign Commerce. While we do have in the Congress a Committee on Merchant Marine and Fisheries it seems to me extremely important that the members of this committee likewise should concern themselves with that phase of interstate commerce carried on by the intercoastal steamship vessels. I say "carried on." It is almost carried out in a pine box.

Intercoastal ships before the war carried 7 to 8 million tons per annum between the 2 coasts of our countries. They carried it in 150 fine cargo ships.

At the present time there are only 50 of these vessels remaining and a large number of those, the future of those, is seriously in doubt.

Since 1950 a number of companies have gone out of business. It is a break-even proposition at best.

Those who remain, and even those who have participated since the war, particularly those who remain, stay in it only in the hope that things will get better, that maybe the Interstate Commerce Commission will quit giving the railroads rates which cut the heart out of the intercoastal water business.

They keep hoping; there are only a few left with hope in their hearts.

Every single cost item is so closely watched that I suggest for your consideration that even the installation of a device such as this, plus its attendant overtime costs, could be a significant factor in the decision together with, of course, other factors, such as whether an intercoastal company remains in business or not.

SUMMARY

Aside from cost factors, however, it is our contention that this legislation is unnecessary, inappropriate, unwarranted, and does not serve the cause of safety at sea. It forces upon the American shipowner a device which duplicates existing equipment and which is untested and untried. We earnestly suggest that this legislation be tabled until such time as a clearer showing of its need can be demonstrated.

Mr. Chairman, just in order that the record might be complete, I would like to insert with your kind permission at this time, an article on the subject of this particular piece of legislation which was in the Baltimore Sun on Sunday, June 5, 1955, entitled "Seamen Oppose Move To Put Radio Call Selectors on Ships."

This article was written by Miss Helen Delich, maritime reporter for the Baltimore Sun and whose reputation nationwide is well known.

Mr. HARRIS. The committee will receive it. We will go over the entire article and include it in the record unless there are objections.

Mr. DEWEY. Very well, sir.

Mr. HARRIS. I say that because some members of the committee might object to including it in the record in view of some other articles which have appeared on this subject.

Mr. DEWEY. With that qualification, sir, I would like to introduce it.

Mr. HARRIS. Very well.

(The article referred to above was placed in the committee files.)

Mr. HARRIS. Does that complete your statement?

Mr. DEWEY. Yes, for which I thank you.

Mr. ROGERS. I want to know whether the two pages listed as an appendix will be included?

Mr. HARRIS. It was included as part of the record in connection with Mr. Phillips' testimony. It is part of the record.

Anything further?

Mr. DOLLINGER. On page 6 you state "Actually, the Moore-McCormack Lines initially purchased the device for commercial reasons, and as they point out, even this purpose was not adequately served."

What do you mean by that?

Mr. DEWEY. The device had two channels on it. I think Mr. Victor, who is so familiar with this particular device, can tell you more. I speak only by reference to the testimony of last year. Mr. Victor can correct me.

I understand the device had 2 different channels, 1 of which had the ship's own call signals, and for that purpose the vessel could be reached during off-watch hours in order that orders to the vessel of a commercial nature, diversion of the vessel or instructions to the master, might reach the ship during off-watch hours so that there

would not be a 14- to 16-hour delay in getting a message to the vessel, which could be costly.

That delay could be costly, and my understanding is they hoped to avoid cost during off-watch hours.

Mr. DOLLINGER. What is the purpose for mentioning this and underscoring "commercial?"

Mr. DEWEY. The contention of the legislation has been primarily safety of life at sea. The device in its initial usage was for commercial purposes.

But I would really prefer that you would address that question to Mr. Victor. He can elaborate upon it.

Mr. DOLLINGER. I thought there was another motive behind it.

Mr. DEWEY. I did have one brief comment I wanted to make, Mr. Chairman, which I believe has a bearing on this, and that is this:

A statement by certain witnesses earlier in the hearing were to the effect that the shipowners are very callous about safety at sea.

I would like to point out one new innovation regarding safety at sea which has saved a lot of distress in the Pacific Ocean in the last few months.

A group of companies on the Pacific coast organized themselves and financed a weather plotting service whereby masters of vessels, upon sailing from west coast ports, would be advised of the best route so that the vessel would avoid heavy weather.

Furthermore, these companies, through this weather plotting service, can get messages to the ship to order diversions of the vessel to avoid heavy weather which develops while the ship is at sea.

Companies which have used this device testify to tremendous savings in costs. Seamen who have ridden on the ships during times of the year where the vessels tend to incur heavy weather testify that they are getting a much better ride and the trip is much more comfortable.

I think this is an important point to consider.

Mr. HARRIS. Mr. Hinshaw?

Mr. HINSHAW. There is a single page statement I think was attached to Mr. Phillips' statement which I do not believe he asked to have inserted in the record.

It is a statement applicable to the present bill.

Mr. HARRIS. Yes. I observe here that this entire statement, with all of the supplements to it, including the statement adopted by the Telecommunications Committee of the American Merchant Marine Institute on H. R. 4090, dated March 17, 1955, has been included in the record.

The attachments to the statement, of course, will be included, too.

I think permission already has been granted but, if not, that includes all of the supplemental statements in connection with the main statement.

Mr. Dolliver?

Mr. DOLLIVER. You referred to the fact there has been some difficulty in the coastwise trade in recent years, particularly since the war.

Would the enactment of this legislation further burden coastwise trade and perhaps have an adverse effect upon it?

Mr. DEWEY. It certainly would, Mr. Dolliver. What comments I had for the intercoastal trade apply equally to the coastwise trade.

Mr. DOLLIVER. This legislation would apply to both intercoastal and coastwise trade?

Mr. DEWEY. It certainly would.

Mr. DOLLIVER. And in your opinion it would have an adverse effect upon both of those segments of the trade?

Mr. DEWEY. I would qualify my answer by saying that this single piece of legislation will not in and of itself decide whether a company goes out of business or anything of that nature. I do not assume such extremes for this legislation.

I simply say that this, together with a number of other very frustrating economic factors, could mean the difference.

Mr. DOLLIVER. Thank you, Mr. Chairman.

That is all I have.

Mr. HARRIS. Mr. Hale?

Mr. HALE. Is it not a fact that practically speaking there is no coastwise trade at all?

Mr. DEWEY. That is very true, Mr. Hale.

Mr. HALE. On either coast?

Mr. DEWEY. On either coast, sir, with the possible exception of industrial corporations which maintain shipping for their own purposes. But from the standpoint of a common carrier it is almost an extinct type of business.

Mr. DOLLINGER. Then this bill will make no difference one way or the other as to the increase or decrease of trade?

Mr. DEWEY. Only on those which remain, a handful on each coast, Mr. Dollinger.

Mr. HARRIS.Thank you very much, Mr. Dewey.

We are glad to have your statement.

May the Chair inquire again whether there is anyone else present who would desire to make a statement or comment on this legislation?

(No response.)

Mr. HARRIS. Any of you gentlemen who are here with Mr. Dewey who wish to make further comment?

(No response.)

Mr. HARRIS. This, then, will conclude the hearings on the legislation.

There is a call from the House and the members of this committee will have to respond to it.

The committee will be adjourned.

(Committee hearing adjourned at 11:10 a. m.)

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